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1933

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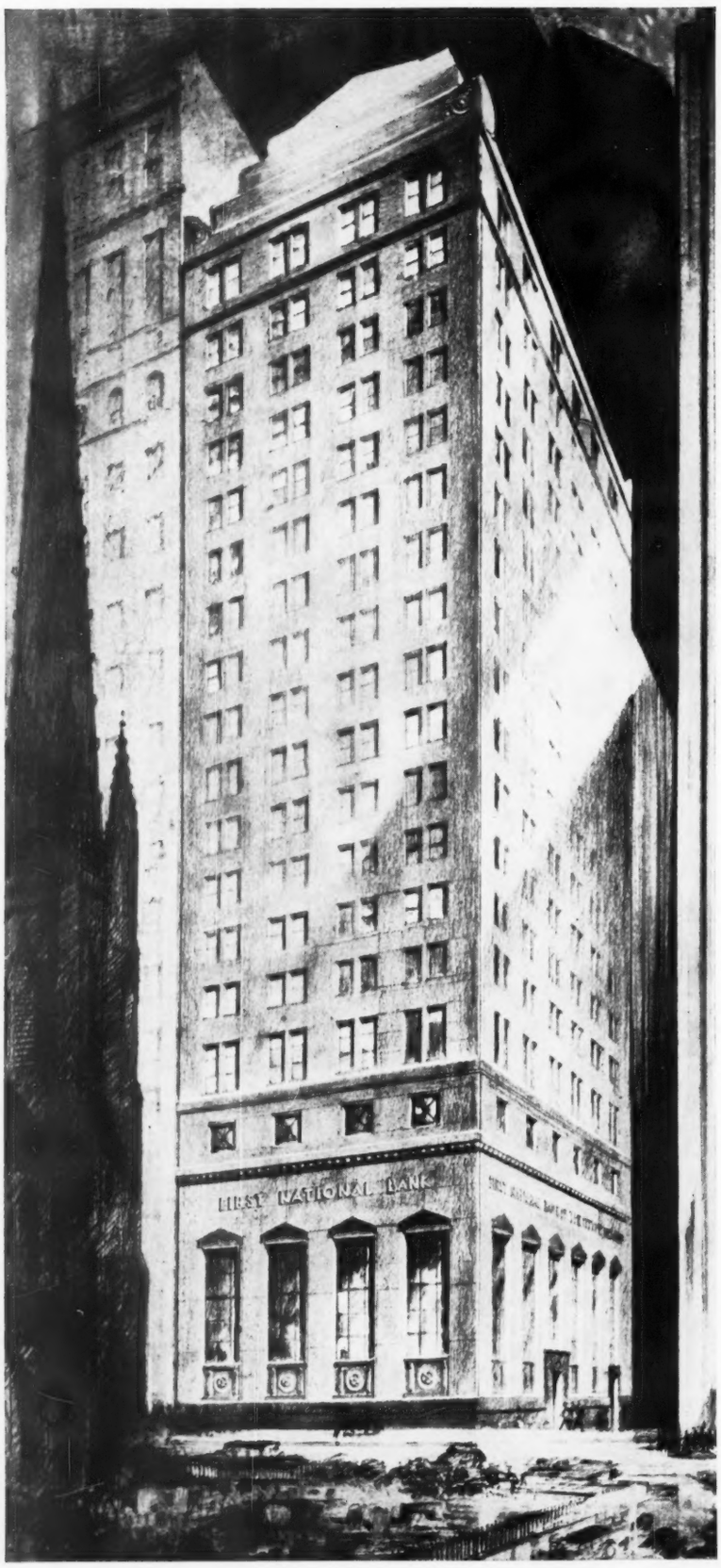

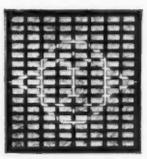

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A Reply to Mr. Coyle and his Answer

To The Editor of Pencil Points

Dear Sir:

Referring to the article by Mr. Coyle in January Pencil Points, permit me to call attention to the fact that he starts off with a few false premises, the which quite destroy the value of his theories.

In the first place, the road of civilization takes no "sharp turns" in the sense implied by Mr. Coyle. At the time to which he refers, "Big Business" was driving the "Car of Juggernaut" and was drunk with fake "prosperity," "jazz," "whoopee," etc., including much false "political economy," and simply lost control of the car; hence the ditching.

Secondly, your writer is evidently not familiar with statistics, or he would not put forth the assumption that the "new" Machine Age has caused overmuch replacement of men by machines. Permit me to call his attention to a recent statement by Mr. John H. Van Deventer, Editor of *Iron Age*, republished in a current number of the Literary Digest: "In 1930, we find density of employment greater instead of less after 30 years of our most intensive mechanization. For there were 398 breadwinners for each thousand of our population as contrasted with 383 in 1900. A net gain of 15 workers per 1000 of population during the 30-year period."

If statistics were available for midsummer, 1929, we would undoubtedly find that the percentage, just before the business recession began, to have been still higher. Why, in spite of all these new machines, was there this paradox? Well, the truth is, this "Machine Age" is not so new. In fact, it is about 150 years old, or more. In the beginning, many hands were displaced by such novelties as the sewing machine, cotton gin, etc., and the resultant turnover and reabsorption was painfully slow.

But, in our own generation, about 99 per cent of the new machines are employed in *new* industries, hence have *added* to manual employment, *not* subtracted from it.

And, one other point for these "new economists," those who have been teaching that "wealth is created by keeping the medium of exchange in circulation" (Garet Garrett, Henry Ford, John J. Raskob *et al*), and that "labor has advanced, in America, to a new high plane from which it is never to recede" (Herbert Hoover, William R. Hearst *et al*): Spending never yet *created* wealth, though buying and selling does, if a modicum of thrift therefrom be added to the Nation's increment thereby.

As to the condition of labor: Improvement in living conditions of any class is a matter of cultural advance with which education and evolution have far more to do than fluctuations in individual income. Just now, the whole laboring class is back about where it was in 1893 to '97. It, as well as Capital, must charge off the cost of the spree of spending and start over. Until organized capital and organized labor are ready to do this, they will continue to perceive defections from their ranks of those who have given up and are prepared to compete with the unorganized masses who are fighting for existence. They must all go to the bottom before the Nation can start up again.

And one further word anent Mr. Coyle's article. The depression was caused by the creation of artificial prices, bolstered by organized Industry through an intensive selling propaganda that reacted on the producers, warped their judgment and induced enormous over-production, especially of luxuries. Just now, we are getting along without many of the luxuries, and millions of the machines that produced them will never turn another wheel. Just because mistaken executives created far too many machines doesn't mean that the Nation has to absorb them and their product. It is said that two or three of our automobile plants could turn out the world's supply, and that the same is true of two or three of the world's largest glass factories, in that industry. But, that is not the consumer's fault. Such idiotic business management transcends anything done by the "unbusinesslike" farmer, but it could have been done by other "Machine Ages," under like atrocious mismanagement. (Incidentally, I designed industrial plants for "continuous processes" in 1910 and earlier, which are still running, without much change.)

As a matter of fact, I wrote about this impending depression in 1926 and '27, forecasting that 1933 would be characterized by unusually bloody strikes and riots, before the labor bosses would allow wages to recede. It may be recalled that, during the sharp advance in scales just after 1913, they promised that wages would come down again when the high cost of living was lowered. How quickly are promises forgotten!

Permit me to add that, after the smoke clears away, we will find millions of the present idle hands *glad* to work 55 or 60 hours a week, at the new low wage-scale, whatever it may be, rather than to continue to accept the meager dole, now being so inadequately distributed. We may not relish the new stipend, but we are facing tremendous natural forces, engaged in reestablishing the control of the laws of supply and demand. But it will not be bad for the public, 100 per cent of whom are consumers.

The chimera of labor's lazing loafing at 30 or 35 hours a week is still in the dim ethereal distance. We will find that, at ten to twenty cents an hour, there will be an abundance of hand-labor in certain lines with which machines cannot compete. Unbusinesslike Big Business bled its consuming public white without putting back anything with which to replenish its fertile fields; hence its present barren harvest. (Can anyone imagine a farmer being so stupid?) Now, Business is forced to wait until a new crop of customers is produced *from the seed*. There is nothing remaining with which to transplant. The machines can't do it. They must lag in the wake of a new set of consumers that will be born out of the travail of this year and next, functioning feebly at first, but gaining strength month by month.

What price "continuous process machines" enough to supply this world and Mars, without customers to buy the products?

W. W. Beach, *Chicago*.

TO WHICH MR. COYLE MAKES ANSWER

Mr. Beach refers very pertinently to the fact that up to 1929, while the number employed in manufacturing had been decreasing for some years, the total gainfully employed in all lines of work had been increasing. The service industries were absorbing the technologically unemployed. I suggest a reference to F. C. Mills' *Economic*

(Continued on page 26, Advertising Section)

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March

PENCIL POINTS

1933

Vol. XIV

Something for Everyone in the Architectural Profession

No. 3

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"Piazza—Ragusa"
by Samuel Chamberlain

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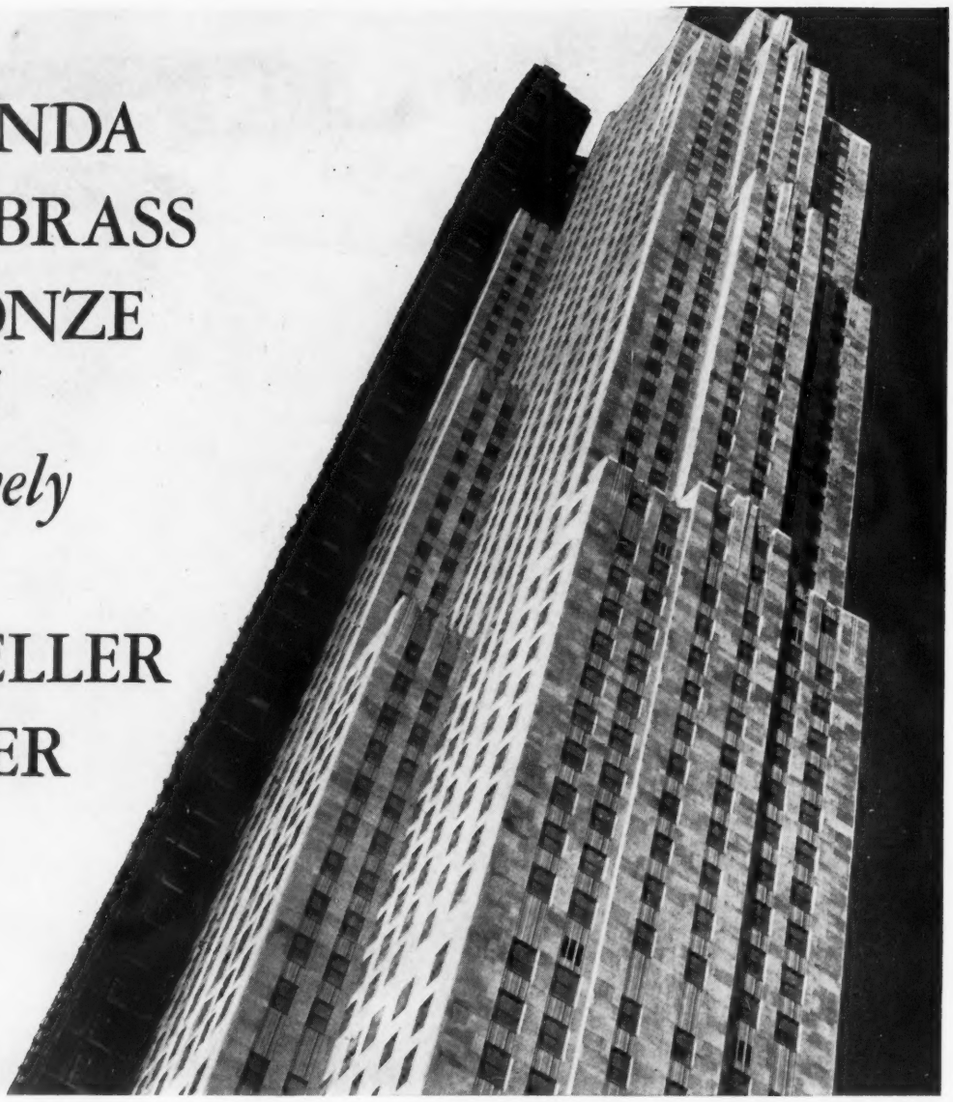

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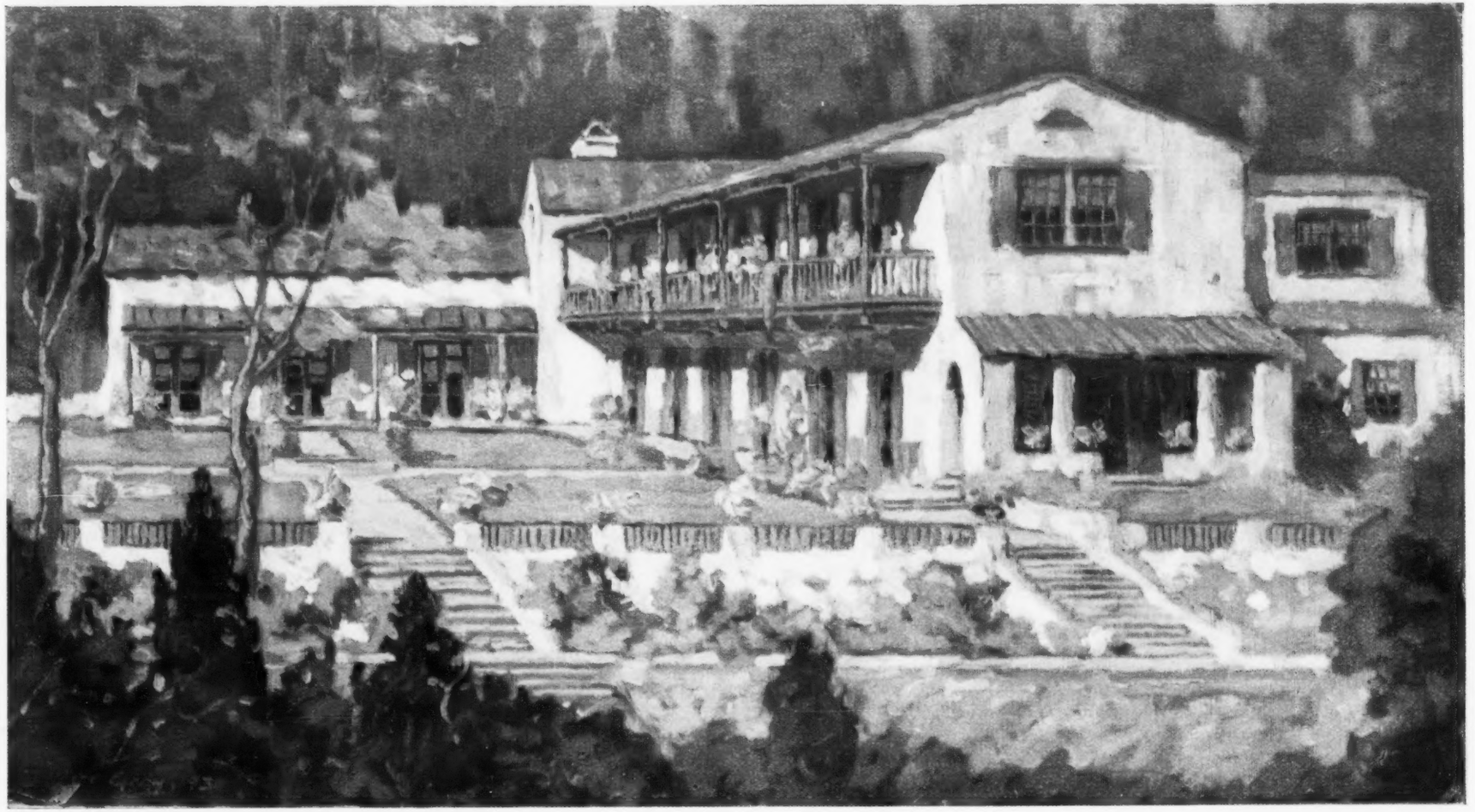
Mr. Grey renders almost all of his work for his clients in oil, preferring this medium to water color. He feels that it takes very little more time, that the result is more permanent and satisfying, and the medium a much more enjoyable one with which to work. The size of this original is 13½" x 24½". It was a free-hand perspective (not laid out geometrically) and took about a half day to make.



HOUSE DESIGNED FOR HUNTINGTON PALISADES, LOS ANGELES, CALIFORNIA

FROM AN OIL PAINTING BY ELMER GREY

PENCIL POINTS
(March, 1933)

PENCIL POINTS

Volume XIV March, 1933 Number 3

America is *not* Overbuilt!

The thing the individual architect or architectural firm needs at this time above all else is work. It is safe to say that, during the past year or so, more ingenious and intensive thought has been expended by practitioners on the problem of getting jobs than in any similar period of modern times. And yet, as time goes on, there appear to be fewer commissions of any kind—large or small, new work or modernization, private or government—available for allotment among a still sizeable body of architects. In the face of present conditions we hear plenty of discouraged voices declaring their belief that there is no visible future for architecture, that we are over-supplied with nearly every type of structure. Is this feeling of despair justified? Is there no hope for the future?

Now, the construction industry can be shown to be not only the largest single productive activity in our economic system but the starting point for an endless series of demands for goods and services related to it. It is generally conceded that if it could only be started up at a good pace it would carry with it towards recovery a large proportion of other businesses of the country. But when we get this far we are met with the same cry, "We are already overbuilt. Look at the hundreds of thousands of empty offices, stores, houses, factory buildings, and all the other types of structures that were built during the boom period."

Virgil Jordan, Economist and now President of the National Industrial Conference Board, in a talk before the New York Building Congress, on February 16, vigorously attacked the belief that we are overbuilt as fallacious and went so far as to say "that the vast expansion of the service industries centering in construction which accompanied the prosperous period from 1922 to 1929 has barely started. We have only glimpsed the possibilities of improvement in living standards of the American people which can be expected from expansion of consumption of such services in the future, as soon as our present difficulties shall have been overcome and we shall have arrived at a better understanding of their causes. The 'new industry,' upon which alone we can depend for the restoration of prosperity in the country and continuation of our progress toward higher living standards, is this great complex of service industries which are comprised in construction."

We are quoting this passage to open the eyes of those who see no future in architecture. We believe it likely that we are closer than is generally appreciated to a great new period of constructive effort. No architect who uses his eyes and mind can fail to be impressed with the number of obsolete buildings, now in use but which sorely need to be replaced. They are being occupied, not because the need and desire for better quarters are not present, but because the financial ability is at the moment limited. Can anyone doubt that, given encouragement by a return of confidence, the latent demand for more adequate "enclosed space" will assert itself? The first group of buildings which needs to be tackled is that of the slums but after that there are many other types. The slum problem will probably have to be gone after as a public enterprise: it will surely return dividends as a social investment.

Robert D. Kohn, Chairman of the Executive Committee of the Construction League of the United States, tells us that in his efforts to stimulate the study of housing projects to be undertaken under the provisions of the Emergency Relief and Construction Act of 1932 by means of R.F.C. loans, he meets with many architects who fail to recognize that there is any housing problem outside of the largest cities. If they will but take the trouble to look around their communities, small though they may be, they will find slum conditions that are crying for correction. The opportunity for leadership and service is there, challenging the architect to get busy and do something.

As we go to press we are awaiting the inauguration of a new President of the United States. There is a feeling abroad that the new administration is somehow going to change things—is going to restore confidence and embark on a new course which will be vigorously pursued and which will lead to a better state of affairs than we have known before. It is generally believed that Mr. Roosevelt has a definite plan for recovery. We do not at the moment know the details or even the broad outlines of this plan but we recognize that such a plan is essential and that it will furnish the needed something to rally around and work for. We hazard a guess that the plan will include among other things a great public works program involving the development of regional planning on a large scale as indicated by the Tennessee Valley proposal and also a strong slum clearance movement.

If these things should come to be, and we have faith that they will, architects as well as engineers will find plenty to do, not only in participating in this great public movement but in handling the private undertakings that will inevitably be stimulated by it. That America is *not* overbuilt will become increasingly obvious as this process of reconstruction goes on.

SKETCH IN OIL FOR A HOUSE AT BEVERLY HILLS, CALIFORNIA, BY ELMER GREY, ARCHITECT

PASADENA, CALIFORNIA, COMMUNITY PLAYHOUSE—ELMER GREY, ARCHITECT

Free-hand Perspective and Rendering in Oil

By Elmer Grey, F. A. I. A.

Geometrically laid-out perspectives are no doubt sometimes necessary in an architect's practice and I have no quarrel to make with them when they are; nevertheless, I hope the day may never come when I have to make another. One trouble with them is that you never know just what the chosen point-of-view is going to look like until you have gone through all the trouble of making the perspective—and then nine times out of ten it will be found to be unfortunate in some respect. Then, too, a perspective laid out geometrically is hardly to be classed as an inspired product; and if its hard sharp lines when completed do not knock most of the inspiration out of the one who is to render it then he is indeed a wonder.

The idea of making a large size perspective free-hand may seem to some rather difficult; but that is largely a matter of training, and if one is timid about it it may be made smaller and afterward enlarged. Modern methods of photostat reproduction make enlarging easy and the charm of the free-hand sketch may thus be preserved.

Many years ago when I was working as a draftsman one of my employers, who was proficient at free-hand perspective, asked me to try my hand at it. I at first told him it was impossible, but he insisted and the ultimate result was that practically all the perspectives for the office were before long made that way, even those for important competitions. Nowadays in my own practice I would not think of laying out a perspective geometrically. If greater exactness is required than can be obtained from a free-hand sketch there is always recourse to the clay model. With that one can be sure of the point-of-view.

In the office mentioned above where I worked as a draftsman an interesting and profitable outcome of our habit of working at free-hand perspective occurred when we entered a competition for the completion of the tower of St. John's Cathedral in Milwaukee. The original plans for the structure were not available, and while we could have made measured drawings of it a better course suggested itself.

We had the building photographed (which of course showed it in its natural environment of surrounding trees and buildings) and a "bleached print" made that could later be washed out. A rendering was then made over this print in indelible ink. Then the print was faded out and the tower designed in free-hand perspective and also rendered in ink. The result was, of course, a very realistic picture of the building with its completed tower in its natural environment; and alone and without any elevations it won the competition. Elevations were of course afterward made from the perspective instead of *vice versa* as is the usual way.

All this is preliminary to the claim that rendering in oil for architects is a much more sensible and practical medium to work in than many suppose. It

is preliminary because facility in free-hand perspective is a prerequisite to success. But taking that for granted then such rendering is not nearly as time-consuming as might be supposed.

Not nearly the precision in the perspective outline is required as is necessary when water color or lead pencil is to be the method of rendering. The crudest charcoal sketch of general proportions, made directly on the canvas, is all that is required—this for the reason that it will all soon be obliterated anyway and any changes in outline or proportion can readily be made with the oil colors as one goes along.

And that is the great advantage this method has over water color, the ability to change either proportions or color at will. Its advantage over lead pencil is that it gives a much more realistic representation and has the appearance when finished of being a more permanent and valuable picture.

Of course it means considerable previous experience in free-hand perspective and out-of-door sketching—the latter in order to attain proficiency in values of light and shade and color. But the out-of-door sketching experience has plenty to recommend it on its own account. For I know of no more delightful avocation or one that may bring any more amusing or interesting experiences.

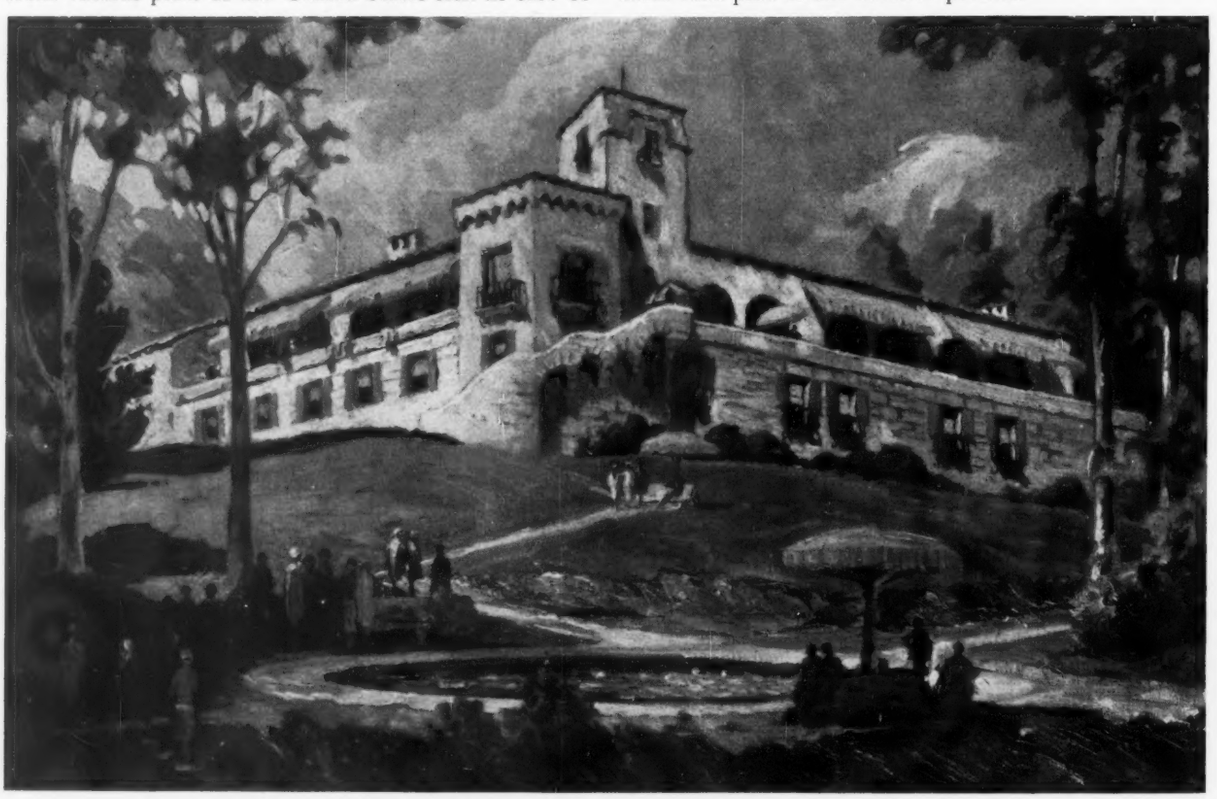
Many years ago, in fact when I was a youth, a chum and I spent some time sketching in a camp of gypsies near Milwaukee, in which two comely girls held forth. Knowing that gypsies loved jewelry, I one day gave one of them a cheap silver ring I happened to have and cared nothing about. As a result my mail for a long time thereafter included letters from various parts of the United States sent in care of a tailor who was asked to "city-director them to Elmer Grey"! The tribal belief of the sender was that the gift of any kind of a ring to a girl under any circumstances whatsoever was a very serious matter!

At another time in a canyon of the California mountains I looked up from my easel to behold not fifty feet from me, three wild deer calmly walking about eyeing me, their fear entirely overcome by their curiosity. Even when I arose and moved about, they did not at once leave me. Such are samples of experiences that may befall the out-of-door sketcher.

Does it seem to some like a waste of time? Let us see. Isn't it largely a question of whether you spend the time bending over a drawing board working at an irksome geometrical perspective, making a hard job out of what should be a joyous, creative process, or whether in preparation for that process you spend a little more time in the great open spaces, the mountains, the desert, the canyons, or the seashore.

How can you design your buildings in elevation with any assurance that you know what their mass composition will look like if you cannot visualize them definitely enough to put them down in free-hand perspective? Should not all buildings have their mass composition designed in perspective first since that is the way they are actually seen, and elevations for the study of detail made afterward from the perspective?

The argument for free-hand perspectives and designing and rendering in a medium like oil in which proportions may be altered as freely as one's thought flows seems to the writer to be incontrovertible. Perspectives and their rendering should not be an afterthought to follow designing. They should be the most vital part of the creative process.



SKETCH FOR THE BEL-AIR BAY CLUB, BY ELMER GREY, ARCHITECT

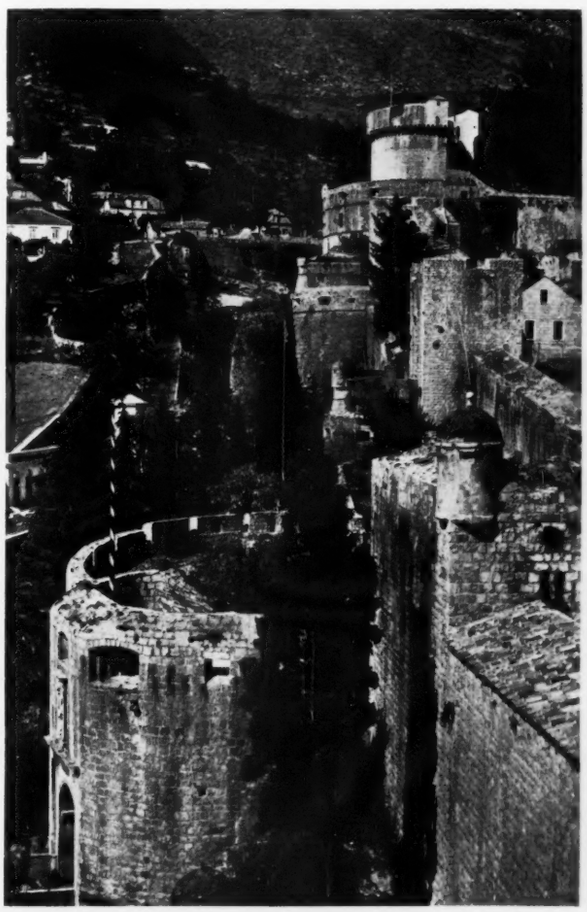
Ragusa—"The Pearl of the Adriatic"

By H. Connor-Crofton

Note:—*Ragusa may be reached from New York by the excellent motor vessels of the Cosulich-Italian Line, or from Trieste by the Dubrovačka Parobrodska Plovidba A. D. ship "Kralj Aleksandar I."*—The Editor.

If you have ever been to Ragusa (Dubrovnik), the old walled city-state on the Dalmatian coast, the accompanying illustrations will serve to refresh your memory and revive that thrilling moment when you unwittingly, or otherwise, came upon this unspoiled treasure-trove of architectural magnificence, set in a veritable Garden of Eden. If not, then you have missed one of the rarest treats the Old World has in store for you. Here in Southeastern Europe are monuments of the classical splendor of past ages, forming a real museum of more than superficial interest to the architect, the student, the sketcher, and the adventurous tourist. It is to be regretted that this city with more than its share of natural beauties and monumental gems is so little known; and it is to be hoped that the "advance guard" who are familiar with it will proclaim its charms from the housetops. As a gesture in this direction, and because our enthusiasm is shared by the Editor of Pencil Points, we are "shouting" the praises of Ragusa in these pages.

The majestic thirteenth century walls, bordered by hoary mountains on the north and the deep green waters of the Adriatic on the south, comprise an impressive scene that will make your blood tingle. Only the walls of Carcassonne will bear comparison with those of Dubrovnik. Their line is broken by a series of picturesque towers, the most striking of which is the Minčeta, built in 1464 by the famous architect Gjorjo Orsini, surnamed Dalmatico. This is no remnant of a mediæval fortress, but the identical and original fortification that in past ages protected the city from all attacks. Now overgrown with fig trees, rushes and wild pomegranates, it no longer serves the purpose for which it was intended, but remains a masterpiece of military architecture, as well as a precious historical document.



THE MEDIÆVAL WALLS OF RAGUSA

The Minčeta Tower in the background and the Pile Gates left foreground.

You will be surprised, as you pass through the Porta Pile, the main entrance to the city, to find that this gate is in an outer line of walls, and you will discover later that the city is encircled by a double line of walls for almost its entire perimeter. From the approach to the Pile Gates, there is little to furnish a clue to the style and character of the buildings within.

One is awe-stricken by the first glance down the Stradun, the principal

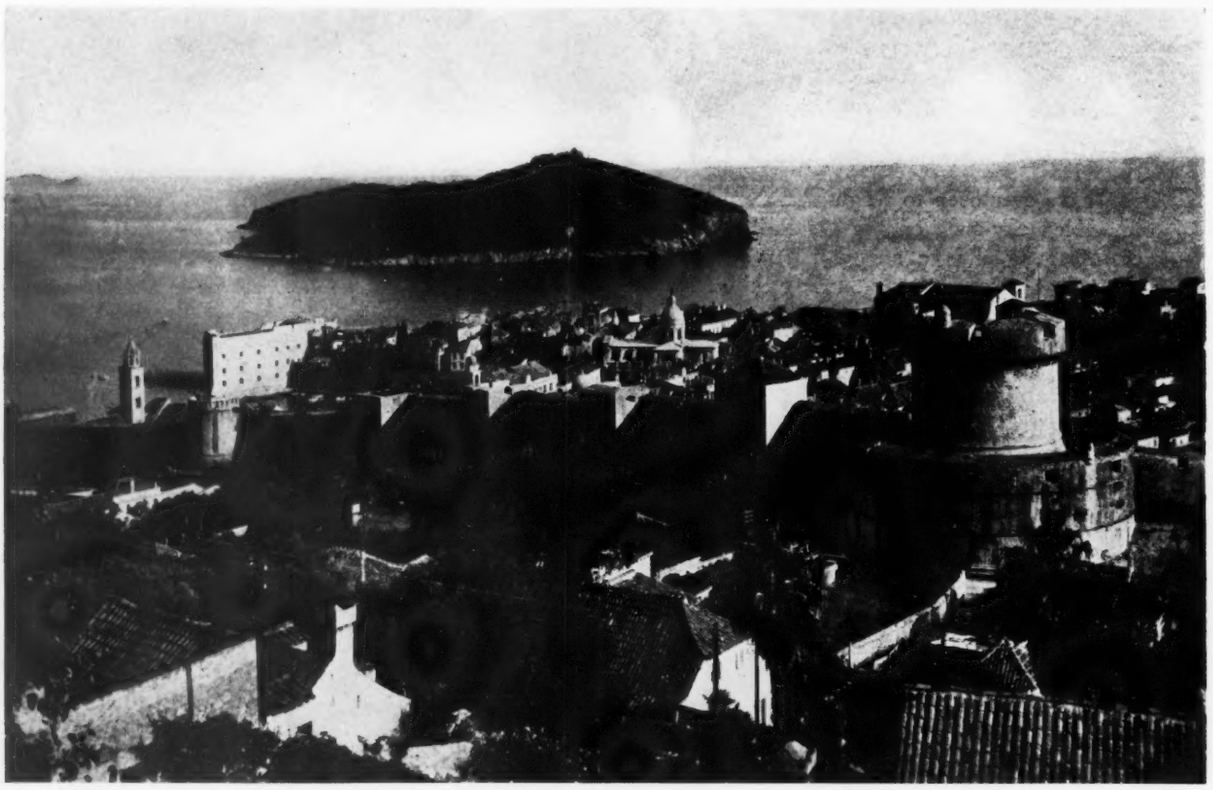
street, for immediately at the left of the Gates, snuggling under the high wall, is the Sveti Spas (Church of the Salvation), while directly opposite is an unusual polygonal fountain, both of which give promise of the monumental splendor which is to unfold as one proceeds by the Monastery and the arched shop fronts to the main piazza. The Stradun is believed to have been a canal in former times; west of the Stradun, extending over to the sea, is the more ancient part of the city. On the slopes of Monte Sergio, last of the Stradun, are many fine residences on picturesque narrow streets.

Within the small area of one tiny city a large number of architectural gems have been erected; whichever way you turn, you will be confronted by beautiful façades, built over a period of centuries, mellow beneath their layers of patina and suffused with an iridescent golden light.

When you have sufficiently recovered your breath and are able to examine these edifices in greater detail, you will find the Franciscan Monastery, with the church of St. Francis, near the Pile Gates, which entrance, in olden times, the monks were expected to defend. The beautiful cloister of this monastery is Romanesque, but thoroughly Dalmatian, in character, and was designed by Magister Mycha Petrarius Da Antivari, and begun in 1319. The columns are distinguished by the fantastic shapes of their capitals; all are different, and represent a variety of animals. Above one side of the cloister, but at one time probably all around it, runs a terrace with a handsome balustrade of true Venetian type.

The little votive church, Sveti Spas, remarked upon as you entered the city through the Pile Gates, is beside the Franciscan Monastery. History tells us that Ragusa escaped serious damage during an earthquake in 1520. In that year, by order of the Senate, this church was erected as a token of gratitude and thanksgiving. The unknown architect must have been inspired to do his greatest work, for this small church, true to the spirit of the Renaissance, is one of the gems of architecture remaining to be admired.

The Dominican Monastery, at the opposite end of the town, leans on the eastern or Ploca Gates. The Dominicans were entrusted with the defense of this gate as were the Franciscans with that of the Porta Pile. From this sprang a bond of union between the rival orders in the city, and a custom which is considered to be unique in the history of monastic orders. On the feast days of their respective patron saints, each celebrates and assists at the ceremonies of the other. This monastery was begun in 1245 and completed in 1360. The cloister is an extraordinary mixture of Roman and Gothic styles, bearing strong traces of German influence. The whole effect is amusing and curious, but is obviously the work of an architect groping between two styles, and master of none. The ornamented well belongs to the seven-



A PANORAMA OF THE CITY OF RAGUSA—THE ISLAND OF LOKRUM IN THE DISTANCE

The island was presented by the Byzantine Emperors to Ragusa, but at what date is not known exactly. It subsequently was purchased by the Archduke of Austria, Maxmillian, and later passed to Rudolphe, the son of Franz Joseph who, upon the former's death, handed it over to the Dominican order.

CLOISTER—THE DOMINICAN MONASTERY

It is square with five bays, each divided into three lights by round columns with richly carved capitals. Above the ogee arches the lunette of each bay is pierced by twin circular openings filled with tracery of various design—wheels and quatrefoils. The 1623 well in the middle of the cloister is surrounded by a garden planted with orange and cherry trees.

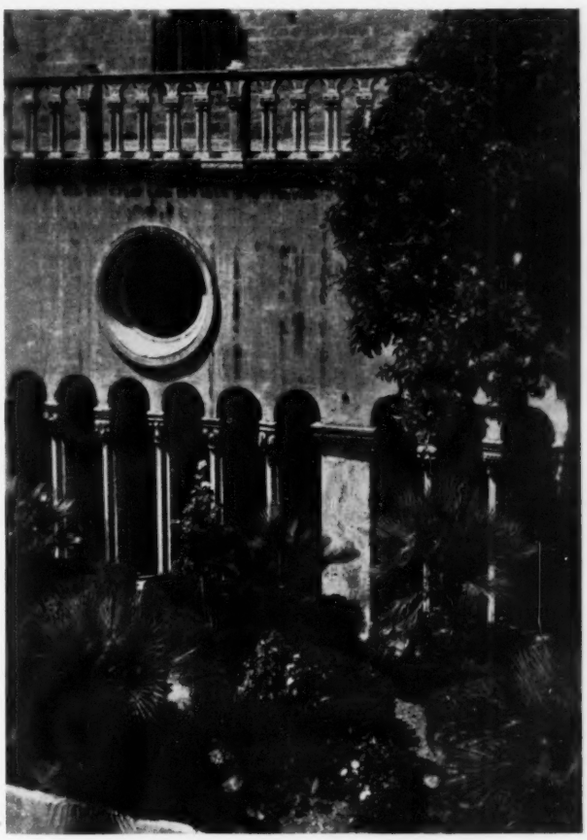
teenth century and harmonizes strangely with the surrounding tricentric archways.

The Rector's Palace in the Piazza is the finest of Ragusa's civic buildings. It is extraordinarily reminiscent of the Doge's Palace on the other side of the Adriatic. Edward Freeman, the historian, has observed that in its construction it is the equal of the Venetian masterpiece, and in some respects even more beautiful and harmonious. It was constructed in 1435 by the Neapolitan architect Onofrio di La Cava. A fire in 1462 caused some damage, and the Senate entrusted the renovation to the architects Michelozzi and Gjorjo Orsini. Michelozzi, the designer of the Medici Palace in Florence, prepared the plans, and Orsini carried them out with certain alterations. The seven pillars of Korčula stone have intricate and skillfully carved capitals, each one of a different design, executed by the pupils of Donatelli and Michelozzi, with the exception of the first on the right, as shown in the picture on page 115, which is now believed to be the work of the Cremonesian sculptor, Nicholas Lazziria.

Beneath the shadow of the clock-tower at the farther end of the Stradun is the Divona (Customs House), built in 1520. It is within a short distance of the quays. The building is a mixture of Roman and Venetian Gothic, three stories high, built around a courtyard. The outer loggia or arcade, facing the piazza, consists of five Roman archways, supported by columns with simple yet excellent capitals. The second story façade has a triforo Venetian ogee window, with a Gothic window on each side. The cornice of the building is crowned with carved stone machicolations, which are reminiscent of those on Diana's temple at Ephesus. The loggia around the courtyard is most magnificent. Huge arches, supported by octagonal columns, carry the walls, pierced on the second floor by smaller columns supporting arches. A "Divine Monogram" in an alto-relievo of the Renaissance style adorns the top of the far wall. Here during the time of the Republic, merchandise from all parts of the world was gathered together in order that it might be assessed for payment of customs duties.

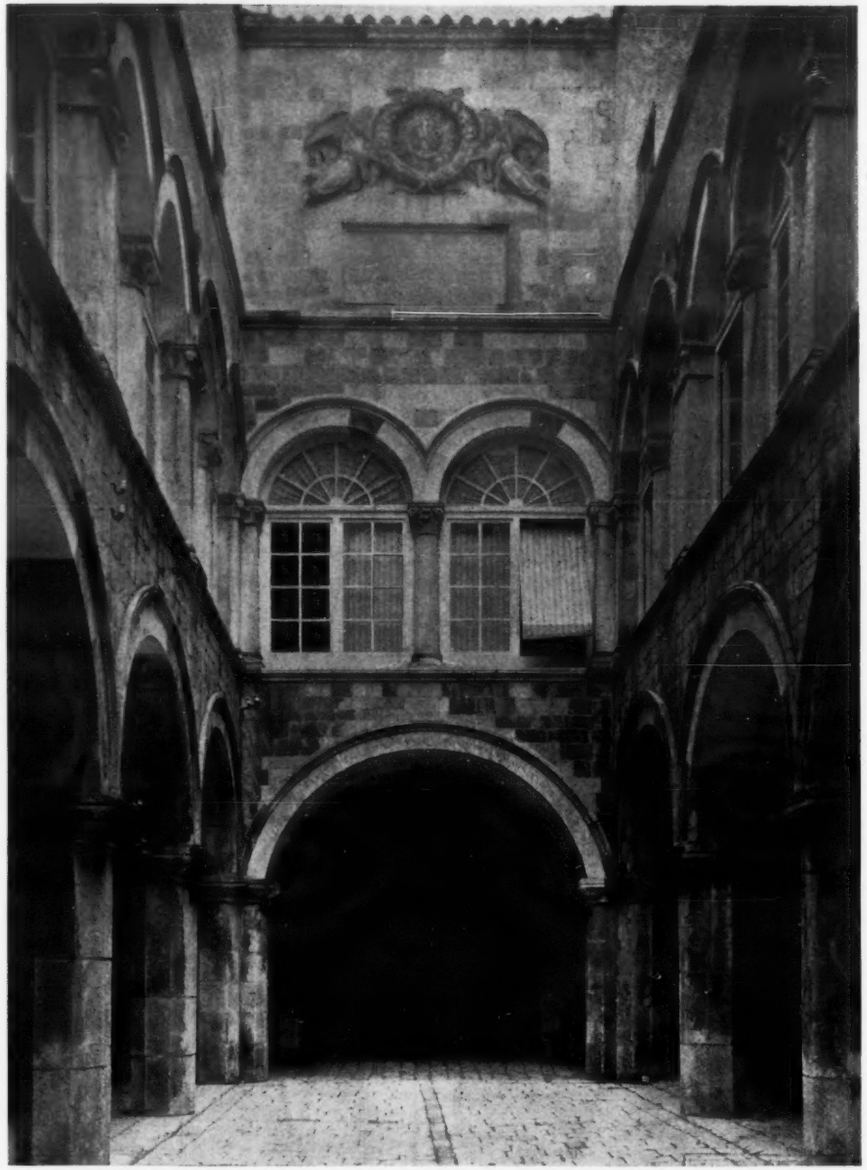
If you have been impressed by the grandeur of these buildings you will wonder, perhaps, what dominant force brought about the indelible and evident proofs of Venetian influence.

For thirteen centuries Ragusa succeeded, with remarkable ability, in preserving her independence by a



CLOISTER—THE FRANCISCAN MONASTERY

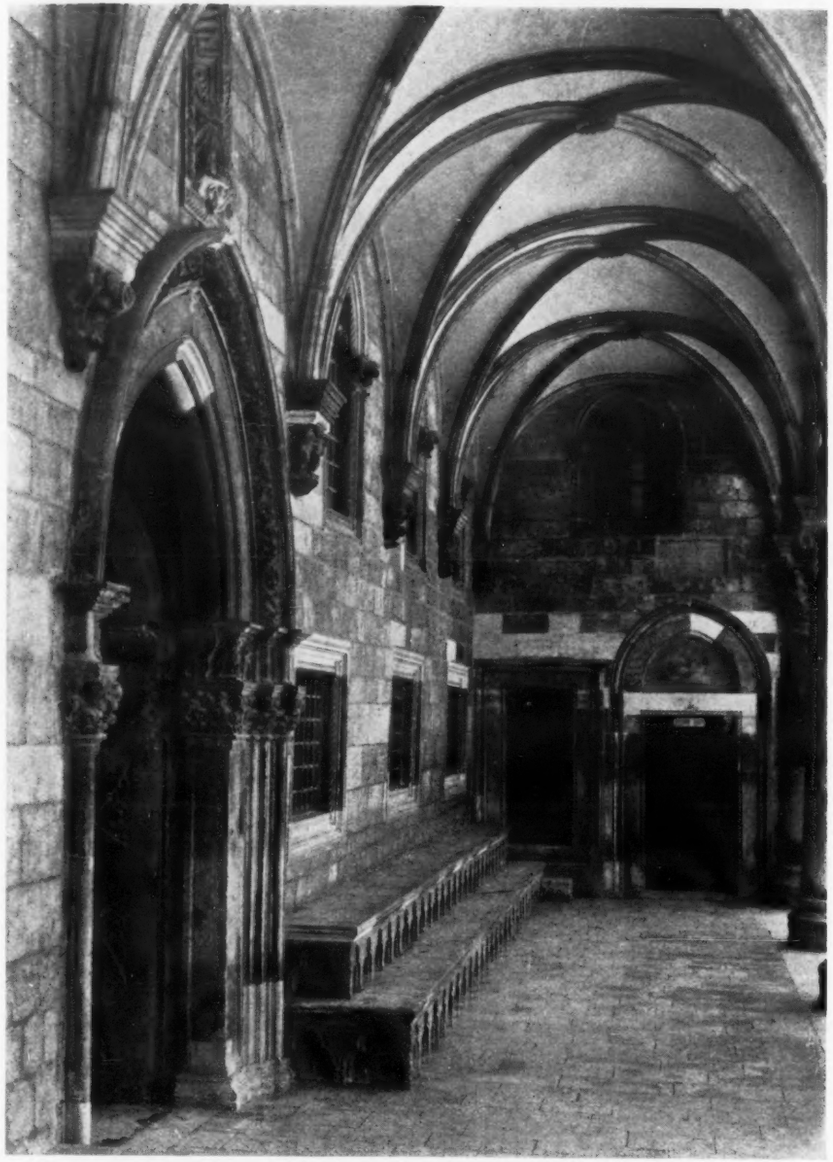
The graceful, coupled octagonal columns, standing one behind the other, have a common base and a common abacus, but each has a separate grotesquely carved capital. There are three bays, each enclosing six round-headed lights. The cloister is filled with orange trees, evergreen shrubs and cactuses.



COURTYARD—THE DIVONA (CUSTOMS HOUSE)—RAGUSA

LOGGIA—RECTOR'S PALACE—RAGUSA

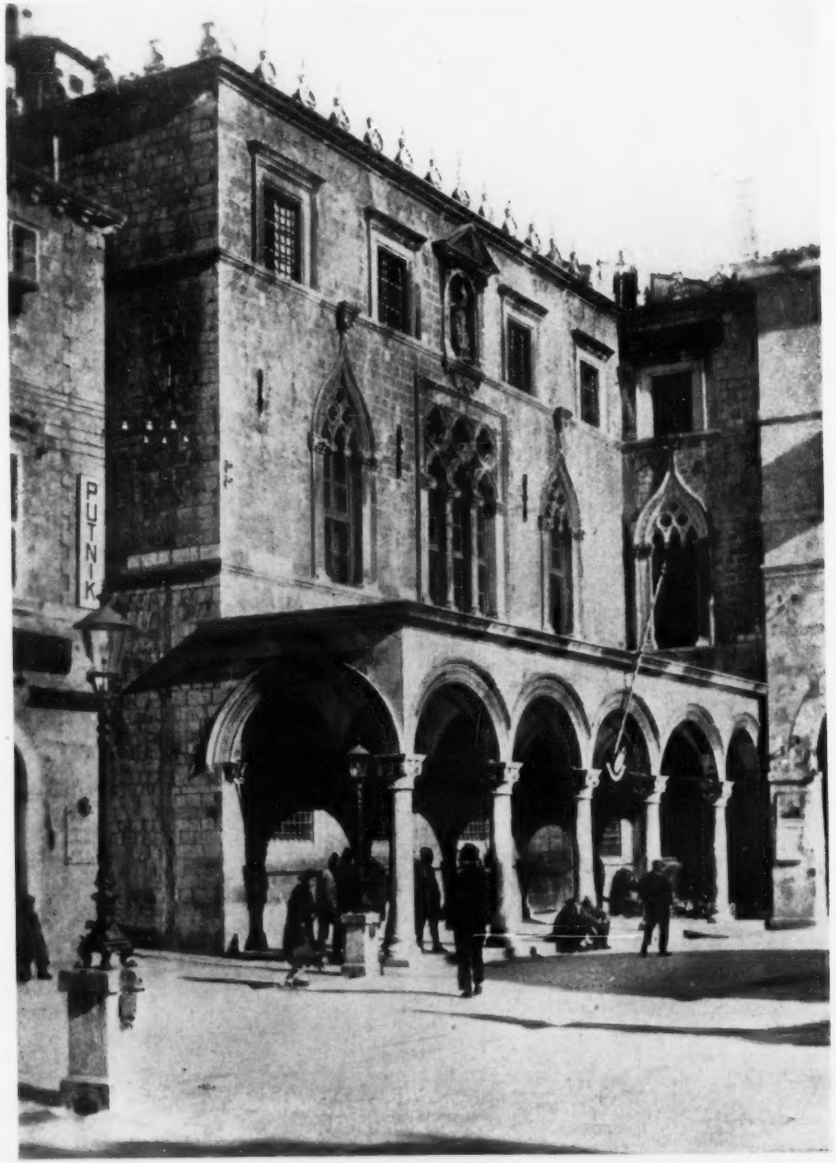
LOOKING TOWARD THE DIVONA ON MAIN PIAZZA WITH RECTOR'S PALACE RIGHT FOREGROUND—RAGUSA



THE PORTICO

DETAIL OF COLONNADE

THE RECTOR'S PALACE—RAGUSA (DUBROVNIK)



THE DIVONA—MAIN PIAZZA—RAGUSA

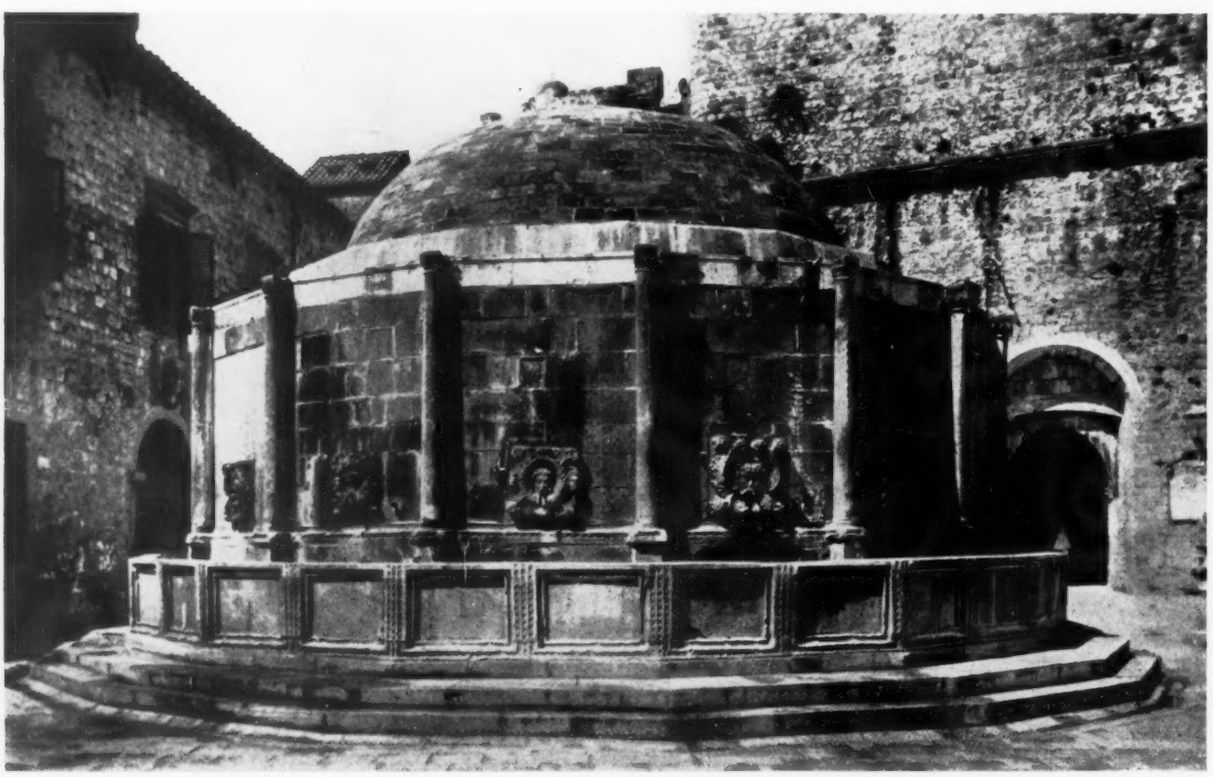
SVETI SPAS—A VOTIVE CHURCH—RAGUSA

system of tributes which insured her freedom from foreign domination. The Ragusans' love of peace, supported by their immense wealth, enabled them to follow the example of the autonomous city-states of Italy, by the employment of a foreigner who acted as an arbiter and guaranteed an impersonal form of government. Although the city communicated with the West through Rome, she looked to Venice for a Rector. Thus for over one hundred and fifty years Venetian Rectors administered the government of Ragusa. This rule, however, was limited by the Constitution in every possible way. When the Ragusans considered that their Rector was usurping his power, he was escorted to the waiting galley, and parted with as a dangerous enemy. But it was through this contact with the Venetians that the independent city-state received from them and absorbed, not in any slavish fashion, but wisely, its distinctive style of architecture. An envious heritage, indeed!

BALCONY—RAGUSA RESIDENCE

The multifarious objects of architectural and archæological interest within the old walled city are surrounded by a background of overwhelming natural beauty, which together comprise a magnificent picture. Small islands stud the clear waters of the Adriatic, and behind the city majestic mountains rear their heads. The scent of fir and sage blends harmoniously with the crystal blue of the skies. The gardens of the villas in the suburbs of Pile and Ploca are garlanded with great palms, orange trees, and fragrant wistaria.

What could be a more perfect setting for so precious a gem!



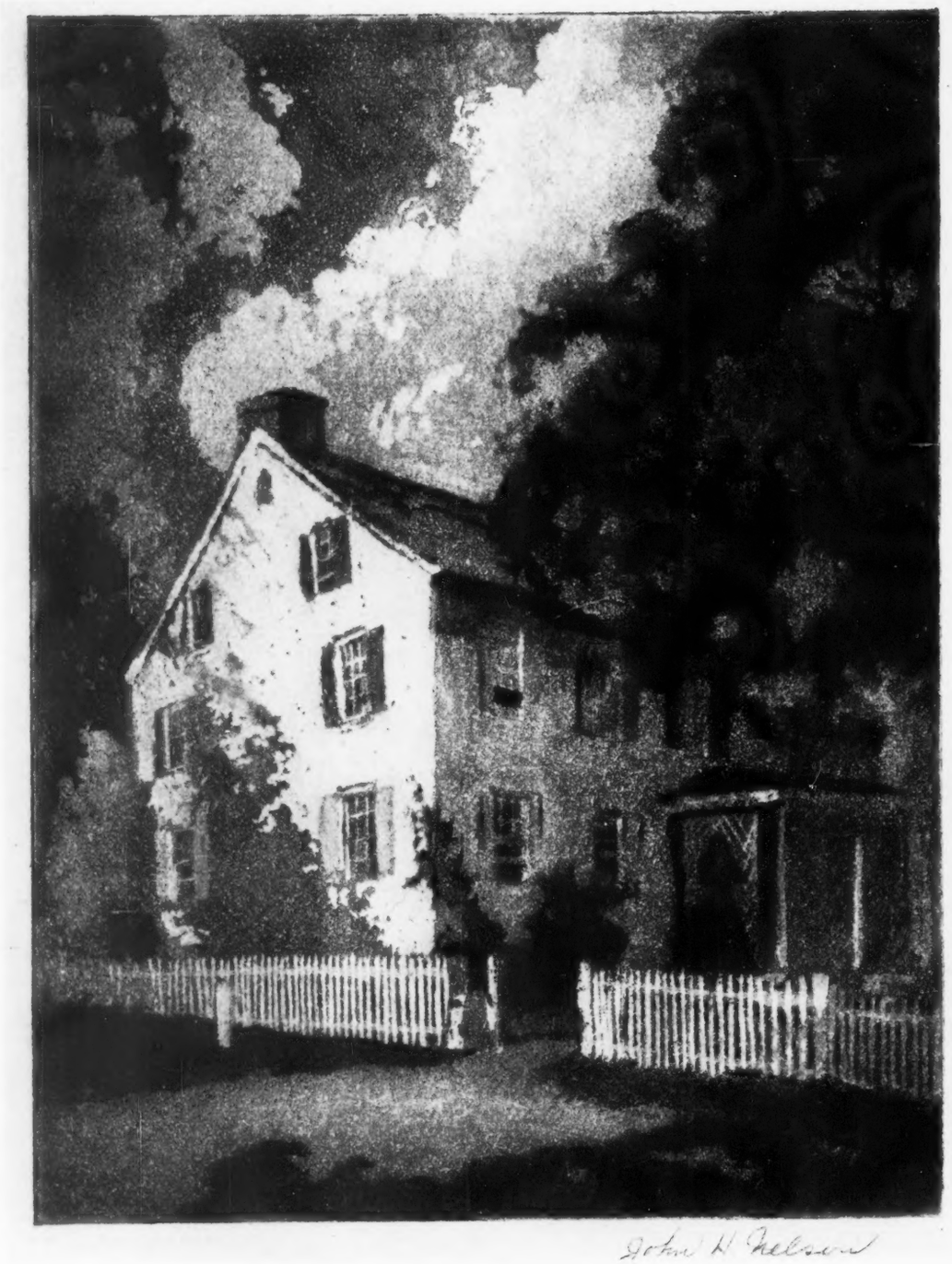
THE POLYGONAL FOUNTAIN—1431—RAGUSA (DUBROVNIK)

ONOFRIO DI LA CAVA, ARCHITECT

La Cava constructed an aqueduct, eight miles long, from Sŭmet to Ragusa by means of which the city, to this day, gets its water supply.

Size of original 11" x 14"

"ROCKEFELLER CENTRE EXCAVATION"—FROM AN ETCHING BY ABBO OSTROWSKY
SHOWN IN THE RECENT EXHIBITION OF THE SOCIETY OF AMERICAN ETCHERS



FROM AN AQUATINT BY JOHN H. NELSON—ORIGINAL SIZE

WASHINGTON'S HEADQUARTERS, CHADD'S FORD, PENNSYLVANIA

The original sketch for this plate was made in the field. This was followed by two careful soft pencil studies, one of which was rendered in pencil while the other was used to transfer the design to the copper plate by means of carbon paper. Seven bites and stoppings out were used. For a description of aquatint technique see page 653, November, 1927, issue of PENCIL POINTS.

Functionalism and Architecture, 3

By C. Howard Walker, F. A. I. A.

Editor's Note:—*The two previous parts of Mr. Walker's discussion appeared in the December, 1932, and January, 1933, issues of* PENCIL POINTS.

I compare the unity obtained in design to the skilful manipulation by a juggler of various objects in cooperation. Unity of factors can be obtained by varied groupings of identical or of similar factors arranged with unanimity; by varied relations of identical factors in spacing, scale, tone, and color; by unanimity of arrangement with changes of shape, scale, tone, and color; or by combinations of all these methods of relation. The underlying elements of gravitation, of dominant intention, are absolutely necessary to avoid confusion worse confounded. Simplicity of idea should be manifest—eccentricity undesired.

ELEMENTAL STRUCTURAL FACTORS

Columns may be in unity in twos or in threes (seldom in larger numbers), both in one plane, or behind each other. Pairs may be alternated with single columns either alone or in a colonnade. Beyond this arrangement is form tautology. The same applies to pilasters, balusters, etc.

ORDERS

When the orders are used in combination the Unity of the design is influenced by concession to the law of gravitation which suggests that lighter and more delicate forms be placed above heavier and lighter forms and the orders are superposed with that end in view; i.e. the Doric below, above it the Ionic, and above that the Corinthian. In using factors other than the orders, the same attribute of common sense applies, as it does in fact in all details, solids or voids, wall textures or grilles, etc.

Unanimity of shapes, of solids, or of voids placed one above another vertically produces only a monotonous texture of surface, like factory walls. Unity in vertical arrangements of different shapes and masses piled one above the other can be obtained by alternates and sequences, up or down, the consideration of visual stable appearance being acknowledged.

Trabeated architecture, i.e. that of the vertical support and the spanning beam (*trave*, a beam), produced rectangular voids with rectangular areas between them (*Vide*, Egypt, Greece, Maya-Aztec). If the voids are wider than their height, the impression of an overweighted beam occurs, and such voids announce horizontal strata. As a wall rises, the eye travels upwards more and more in proportion to its height, and as the direction of a surface or of a void follows its length, rectangular shapes are in most cases higher than they are wide, and give the impression of possible indefinite extension upward, and some motive to define their completion is acknowledged. Hence the eaves, the cornice, the parapet, the frieze, and in fact the entire entablature, and often horizontal voids to stop the direction of the vertical voids. But in terminal motives (excepting that of the pediment or the gable), is developed early a trabeated construction. But when the arch appears above ground, terminal factors follow. The arch is first used horizontally below ground as the wall about a circular pit or grave to prevent its being filled by the surrounding soil or sand, as in a farmhouse well. The pit was covered by wooden beams, over which earth was piled forming the tumulus. These rotted and fell in.

The principle of the arch was next used vertically as a continued arch or barrel vault over subterranean cells, which were storerooms of wine and oil. Above ground it appeared in Assyria and in Etruria over city gates, as its ability to span greater widths than a beam was recognized, thus creating wider exits and adits to a city. It was at first used by Rome for great drains as the Cloaca Maxima, and by Assyria in drains throughout the brick platforms which raised cities above inundations. Its use, as that of the vertical support and beam, was entirely functional, as it had been in the plan in the apse and hemicycle. In a noble unanimity it marched across the Roman *campagna* in the five great aqueducts supplying the city with water from the Alban Hills, and soon the arcade was substituted for the colonnade in the Tabularium at the end of the Roman Forum. Up to this point it is almost exclusively functional.

In plan it has been shown that a semicircle is a terminal shape at the end of an axis. In voids in areas it suggested a similar effect as in triumphal arches, and the motive derived from them was established by Alberti and the centralized opening of the so-called Palladian treatments. Arched motives were used to indicate the termination of the large rooms of a building and in the top stories of buildings. If used as arcade over arcades, these were unanimous in proportions—as in *Santa Maria della Pieve* in Arezzo and in Pisan and Luccan façades—or graduated with smaller intercolumniations towards the top in concession to a desire to express lighter construction over heavier.

The arch, at first used above ground to span wider openings than a stone beam, gave a larger scale than could be obtained in trabeated structure and became an individual motive with dignity and nobility.

Alternated and sequenced arches in one plane which occur in Romanesque and Gothic are usually indicative of changes in plan or in structure. In making containers, such as packing cases, chests, etc., common sense has caused the outside corners to be made strong,

and that method has become usual and accepted as indicating strength. The same common sense has been applied to façades at top, bottom, and sides. As a consequence, the termination of continuous colonnades and arcades by plain areas of wall occurred at an early period, as in the Elche of the Knidians at Delphi, which led later to pavilion treatment at the ends of façades. Arcades unheld at the ends by plain masses, to hold the thrust of the end arches, as in Brunelleschi's *Opitale dei Innocenti* in Florence were structurally weak at the ends. It became a custom to design façades with more voids in the centre than at the ends as in Venetian Palaces. Palladio, an innovator, in the *Palazzo Chierici* reversed this custom unsuccessfully. The so-called modern idea of making corners into voids of glass neither appears nor is actually common sense. Utilitarian purpose accomplished and structure determined, and arrangement of solids and voids established, architecture continues the development of design applying to it accents of construction, of harmony, of tone, of color, of pattern, and many of the attributes of speech, by symbolism, and by conventional and actual representation. These are its details and without them it is a crude statement of bald facts analogous to a child's primer, more or less well edited and printed. And Functionalism, before details are considered, becoming Architecture, could have, and in many cases has, expressed itself empirically and confined itself to opportunist solutions which, with excess of material, casual areas, and lights, satisfies physical needs and no others, until Architecture transmutes raw material and embryonic efforts as with the wand of a magician.

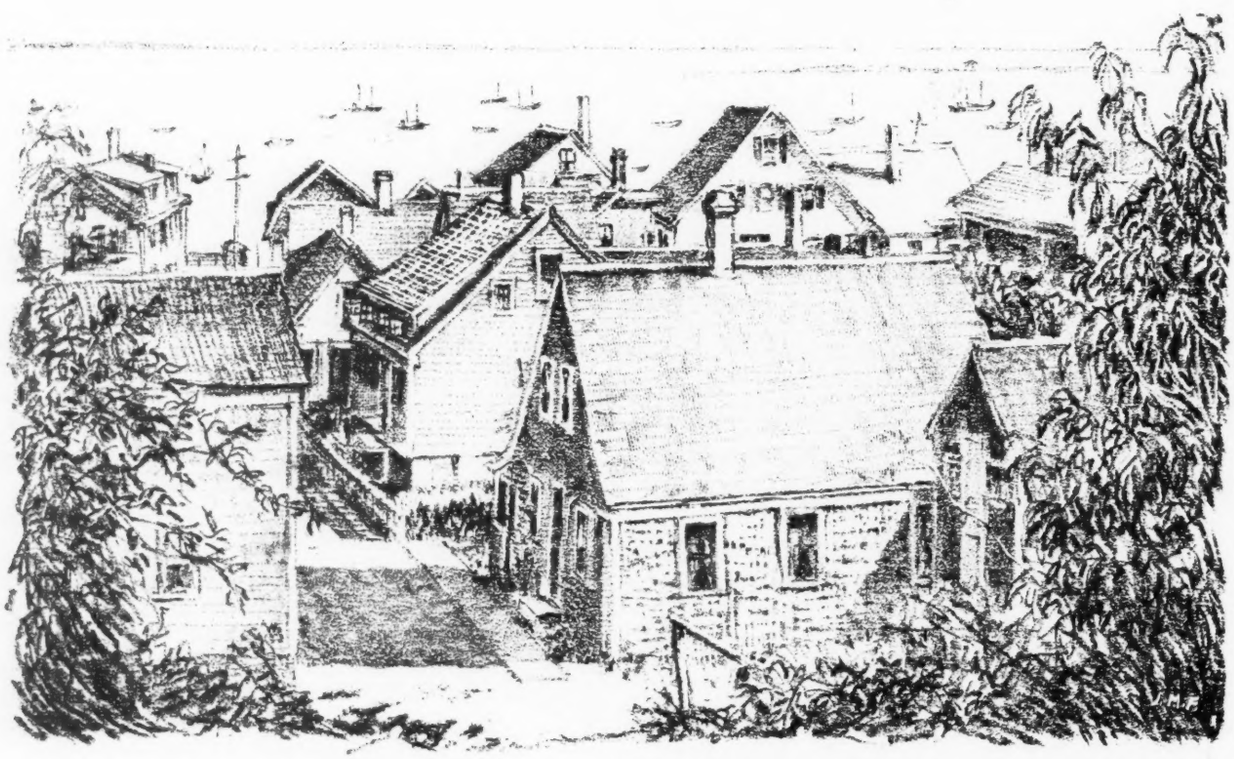
It is a sad commentary that man should mistake the Poet for the Peasant just because the Peasant is a necessary factor of manual labor.

Take the first four lines of Gray's "Elegy" and elide all excepting "curfew," "herd," "lea," "ploughman," "way," and "world," and you have a fair analogy of the integral qualities of functionalism and Architecture. Even "curfew" and "world" can be elided, for one suggests the bells' tone, and the other a general field of action, not merely an incidental need.

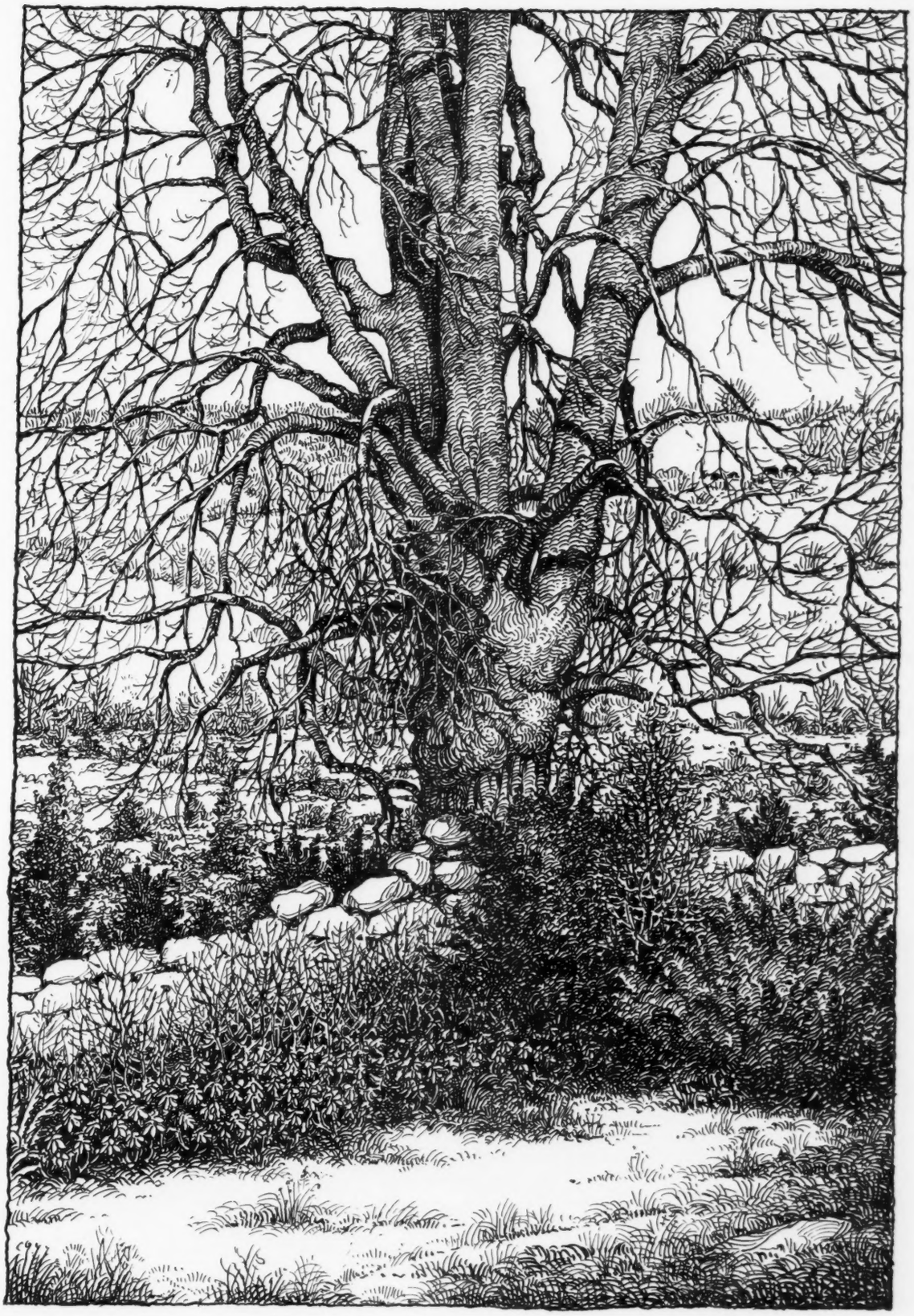
For functionalism has no underlying elemental law excepting that of gravitation, and often not that. It busies itself with the theory that is, not with the theory that may be.

It is essentially materialistic, perfectly satisfied with itself and therefore arrogant. It eschews fancy and is bored by idealism. It is Architecture that crowns it with idealism, and with gold and silver and precious things has erected a statue upon these feet of clay, only asking that they should maintain their integrity, which at present they seem to think to be less than their whole function.

Architecture is at its best when it applies simple elemental systems common to its treatment of all functional designs. It has at its best, in all its expressions, greatest common divisors such as axes, dominants, scale, and relative proportions. Functionalism has none of these unless fatuitously.

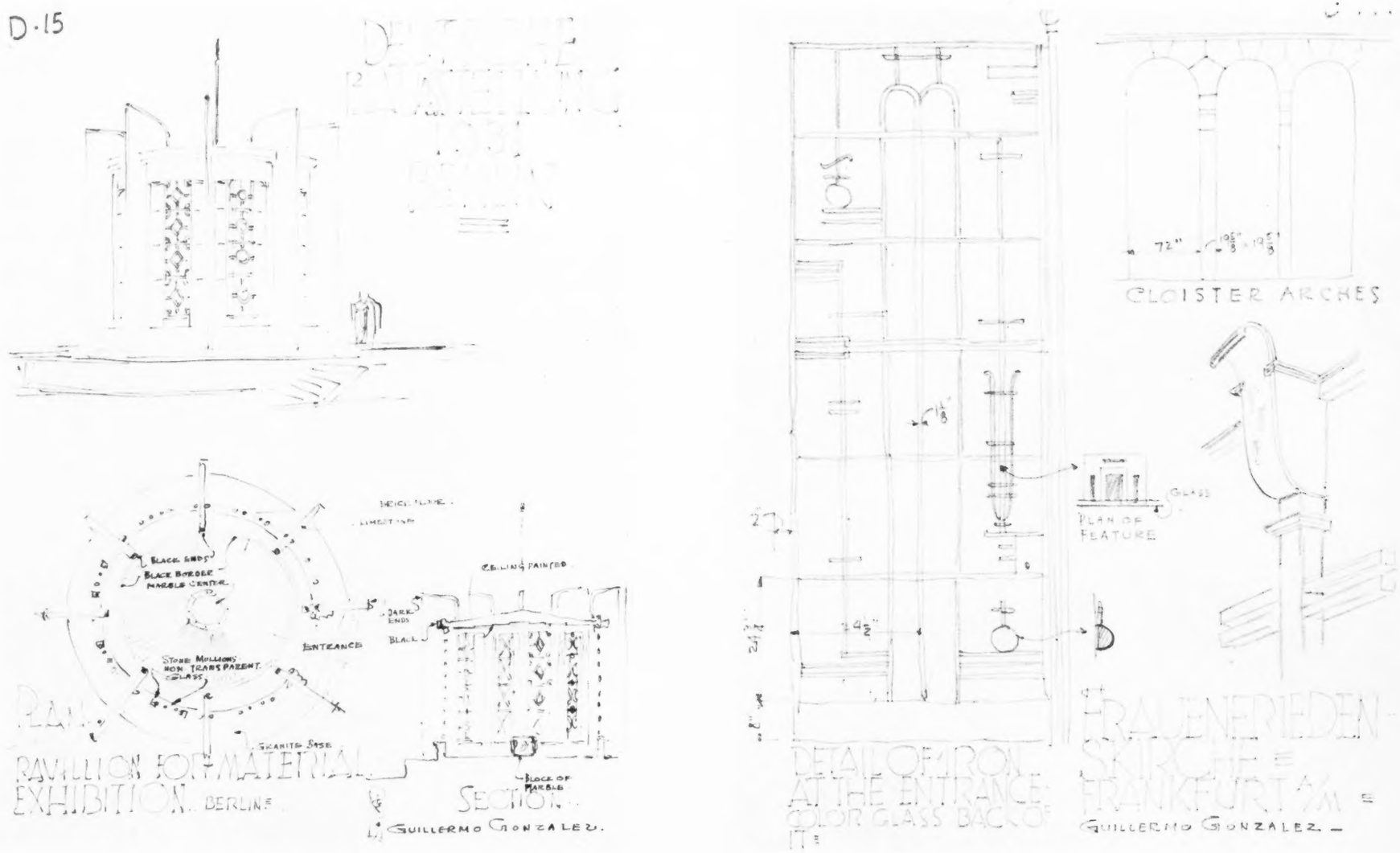


"PROVINCETOWN"—FROM A CRAYON DRAWING BY JOHN FOSTER



FROM A TREE STUDY IN PEN-AND-INK BY ERNEST LEWIS

This drawing was made on kid-finish Bristol board after a pencil study drawn directly from nature.



FIELD NOTES FROM THE TRAVEL SKETCHBOOK OF GUILLERMO GONZALEZ—MODERN GERMAN DETAILS

Who Built That Building?

By Natt Piper

While visiting in a certain city I was riding one day with my friend Aldrich who is a building contractor. As we drove down the business streets he pointed out here and there a structure, saying each time, with pride, "I built that building." And this was the remark he repeated again, gesturing towards a very fine looking office building, which I judged to be about ten years old.

"That is a pretty good looking job," I remarked. "I think you have done a lot towards improving ————," naming the city.

"I have," he said.

"Who was the architect for that last one you showed me?" I inquired.

"I've forgotten. Let's see, was that Billy Wilson, or Hart and Lore? Blest if I remember, now," he replied casually. "That's the Telegram Building. I did that job in 1920. How time flies!"

We arrived at our destination and my friend drove on as I went to the office in which I had an appointment.

After an hour or so I started to leave, as one of the younger men to whom I had been talking came into the reception room pulling on his gloves. "Which way are you going, Mr. Alanson?" he inquired. "I'm on my way to Tenth and Main."

"So'm I," I said.

"Fine. I'll take you right there. Let's go."

And so, alongside another driver, I traversed the same street that I had previously ridden through.

"My dad built that building," proudly declared my companion, pointing to an imposing office building. "Good job of brick work, don't you think?"

"Yes. It certainly is," I said, recognizing with some little surprise the last structure my friend Aldrich had pointed out. "So your father did that?"

"Yeah, one of his first jobs. He built it for Old Man Liff. Do you know the Lafayette Hotel? That's one of the old man's jobs too; he's built a lot of 'em down town here."

"Is your father an architect or a contractor?" I inquired.

"Architect? H-e-l-l no! He's a contractor."

"But I thought Aldrich built the Telegram Building," I countered.

"Oh, yeah, sure—well he did. That is, he was the general contractor. But dad did all of the brick work."

"Oh, I see," I said.

Now, I have heard many men tell of their experiences in building, for I travel for a firm whose business brings me into contact with real estate men, contractors, and occasionally an architect. It suddenly dawned upon me that I had often heard the expression, "I built that building," yet I never gave it much thought until, in the same afternoon, two different contractors were credited with the erection of the same edifice. This coincidence intrigued me a bit but my interest soon waned as I went about my work.

The following day I called upon one of the leading bankers and took him to lunch. From our table, near a window, we both could see the Telegram Building. I said to Mr. Banker, "The old Telegram looks just as good as ever, doesn't it?"

"Well it ought to. When we built that job we saw that the right stuff went into it."

"I didn't know you put that up—I thought it belonged to a Mr. Liff. So you're interested in it, are you?"

"Of course it does belong to Liff," returned Mr. Banker, "but we're 'interested,' as you say, for we built it—I mean we furnished the money."

"Oh, I see," said I.

Here is my chance to hear that architect's name, I thought. "Who designed the building," I queried.

"Henry Richter designed it. Mighty smart fellow; he saved us a lot of . . . . Why, Henry!" he exclaimed, as a man came towards our table. "Hey, Harry, I want you to meet Mr. Alanson, an old friend of mine. Just talking about you. Isn't that strange? Just this minute told Alanson what fun we had when we built the Telegram Building." He introduced us and continued, "Richter's a structural engineer. I know you will let him eat his little old lunch with us, won't you?" with a nod towards me.

"Surely. Three can't be a crowd in this hectic hustle to feed," quoth I. "So you designed the Telegram, Mr. Richter?"

"Yep. One of my first jobs. And I want to tell you that good construction pays; shove the steel into 'em if you want 'em to last. Make the owner pungle up the jack. I had a heck of a time with Old Man Liff to convince him that extra bracing was worth the money. But I finally won out, and there she stands. I'll admit I'm proud of the old shanty."

As I was dressing in my hotel room that evening the conversation during lunch returned to me. In addition to the architect, for there certainly *must* have been one, four different fellows "built" the Telegram Building! Each of the four implied, strongly, that he was its creator. I was willing to bet a thin dime they wouldn't claim the baby if it looked like the devil. I wondered again who the architect was. By the looks of things there was a conspiracy to keep him entirely out of the picture! "Yeah—Mr. Banker built it, did he? Like fun." I muttered, "By gum!

This is getting interesting. I'm going to find out who 'built' that building." Or rather I would discover the man who was responsible for its fine appearance. Number one man, the contractor, wasn't; number two, the brick mason, couldn't have been; number three boy, the banker, and, lastly, the engineer, didn't put the good looks into it. Next day I could easily complete my work and have several hours to spare before train time. I would use this time in finding out something I was determined to know.

Right after lunch I was standing in the corridor of a building, waiting for the elevator, when my eye caught the sign, "Palmer and Stephens, Architects" on a nearby door. "Great!" I thought, "here's where I learn the name of the architect for the Telegram." I entered the office. A tall young fellow came to me and I immediately came to the point. "I'm somewhat of a stranger in town; I happened to be passing your door and I have wanted to ask some architect a question," I said.

"If I can answer it, I'll be glad to," courteously replied the young man.

"I want to know who designed the Telegram Building."

"That's easy," he said, "I did! Right in this office. Why do you ask?"—with a grin. He pulled down his vest and visibly expanded.

After assuring him I was actuated by curiosity only, I asked, "By the way, are you Mr. Palmer or Mr. Stephens?"

"Neither. My name is Winkler — J. Johnson Winkler," he answered.

Again in the corridor I glanced at the sign, "Palmer and Stephens." Yet Winkler had just forcefully told me that *he* had designed the Telegram, "Right in this office." But Richter had designed it too! Now I may have been altogether too inquisitive, and I may have been dumb—but, in any case, I knew instinctively that I was not through with my search. I started for a telephone. I was going to begin to unearth, discover and find out the name of the dingbusted architect who had "built" the Telegram Building!

"Hello—is this Hart and Lore's office?" I voiced into the receiver.

"Yes. Mr. Lore speaking," answered the instrument.

"Mr. Lore, I picked your number at random. I wanted to ask if you, or some one in your office, can tell me the name of the architect who built—who drew the plans and the specifications for the Telegram Building, corner of Eighth and Main. Or whether you can tell me of some architect who knows his name," I ended, quite incoherently.

"That was one of my jobs. Who is this speaking, please?"

"Alanson is my name," I answered, "and if you will be in your office for fifteen minutes, I'll drop in. I want to talk to you—that is, if it's convenient."

"Perfectly all right, Mr. Alanson, I'll wait for you." Lore was graciousness itself.

I was in Hart and Lore's office within five minutes. Mr. Lore introduced himself and I acknowledged my name. His office walls were hung with colored pictures—you know, the kind architects make. Among them I saw a huge picture of the Telegram Building. It was being dusted by a stenographer. Mr. Lore placed a chair for me opposite his own and remarked, "Fine day, Mr. Alanson."

"Yes—nice weather we're having. I came to see you, Mr. Lore, about the Telegram Building. I like it very much and I wanted especially to know the name of the architect who drew the plans for it. And, as you told me you had, I now want a little more information."

"Surely, surely, Mr. Alanson. Pleased to tell you about it. Did you want to know the cost—or what? Glad to help; got all the data filed away. Fact is, prices are way down now; cracking good time to build. Labor is plentiful and labor's a big item in construction, you know. That," outwardly swinging his hand to the large picture, "could be built for a great deal less today. Do you live here, Mr. Alanson? Haven't I met you before—or was that Mr. Alanson I once knew, a real estate man? Are you in the real estate business, Mr. Alanson?"

"No. I'm not in the real estate business," I replied to his genial questioning, "and I am more or less of a stranger in town, and I am not thinking of building—at present, anyway," I concluded.

"To be sure," said Mr. Lore. "Those things have to be done gradually. But I'll be tickled to death to knock out a quick sketch for you sometime—any time you say. No obligation, at all, just something to keep my fellows busy. You see we have twenty men in our organization. Like you to meet Roscoe Hart, my partner. He 'tends to all the outside work. We've got quite a few jobs going now. I am in the office most of the time—you understand, I do all the designing."

"I see—and that's just in line with what I want to know. When you said that you had drawn the plans for the Telegram, did you mean you, yourself, or your firm?"

"Well—yes, and no. I was the architect for the work—it's this way. When I first came here I was in partnership with another man by the name of Rohrbaugh—he's dead now—and we got a commission from Old Man Liff, to do a small tax payer on that corner. Well, to make a long story short, I convinced Liff that it would be better to strain a point, if necessary, and put up a better building. So I worked out that sketch over there and Mr. Liff liked it right off the bat. He was an old friend of my partner's and Rohrbaugh helped me a lot with the deal. In one way it was reviving an idea that those two old fellows had long talked of, and Rohrbaugh had sketched around on a twelve story. And I worked this sketch up," he concluded rather lamely and shifted a bit in his chair.

"Then really the architects for the building were you and Mr. Rohrbaugh?"

"I suppose that's right," he replied, very evasively, I thought.

"Now Mr. Lore, I don't want you to think me personal in any way and I am seeking after knowledge, truly. I wonder if you will answer a few questions, which I assure you are put simply for the purpose of righting my ideas." Then I went on to sift this business to the bottom of the sifter. I finally got actual facts from Lore. Rohrbaugh, his partner at the time, had worked with Mr. Liff for many years; was his architect for several projects. Liff had wanted to erect one larger edifice before he passed on, and, between them, they had developed the scheme for the Telegram Building. Lore, a talented, energetic architectural draftsman had been working for Rohrbaugh and eventually the older man offered him a partnership which Lore quickly accepted. Then, with full consent of Rohrbaugh, Lore began the more active management of the office, including the completion of commissions that had hung fire for years. The Telegram was one. He told me that his partner had not only designed the structure but, in an effort to benefit his health, that he had also acted as superintendent of construction. "After all," he confessed, "it was the old man's baby and he was doing it for a friend, too. Rohrbaugh was really the architect, in every sense of the word."

"One more question," I said. "What parts did Harry Richter and J. Johnson Winkler play?"

"J. Johnson Winkler? J. Johnson! Sure, Jack Winkler, you mean. Why, Jack was a draftsman for us; maybe he traced some of the larger scale details. He's working for Palmer and Stephens now, and they're in our old office, the one I left to come here. Richter was working for George Ferguson, structural engineer. I suppose Harry was a squad boss, or something. Why? Do you know them?"

"Yes. I've met them both. Nice fellows—but 'twas just an idle question. Say, old man, I've got to rustle along; leave on the 5:10. No end of thanks for your time, and information. It clears up a lot for me and I have enjoyed the talk. Any time you're in my town, step in and see me," and I left.

Although this experience of mine was revealing, to say the least, I dropped it from my mind until after dinner. Then, in the smoking compartment, speeding along—as we are now—I began a desultory conversation with an athletic looking fellow. In the rather long intervals, between our remarks, I thought how fortunate I had been in finally tracing down the architect for the Telegram Building. Mr. Rohrbaugh was the man, as Lore had admitted. I wondered why architects didn't put plates on their buildings, like those used on bridges. Lore had said that Rohrbaugh was a very shy and retiring man. Such fellows need a brass plate to talk for them.

"Here's Rochester, already," said my companion, glancing at his watch, "and right on time, too. I remember this town well. I built a coupla buildings here and one in ————————," naming the city I had left.

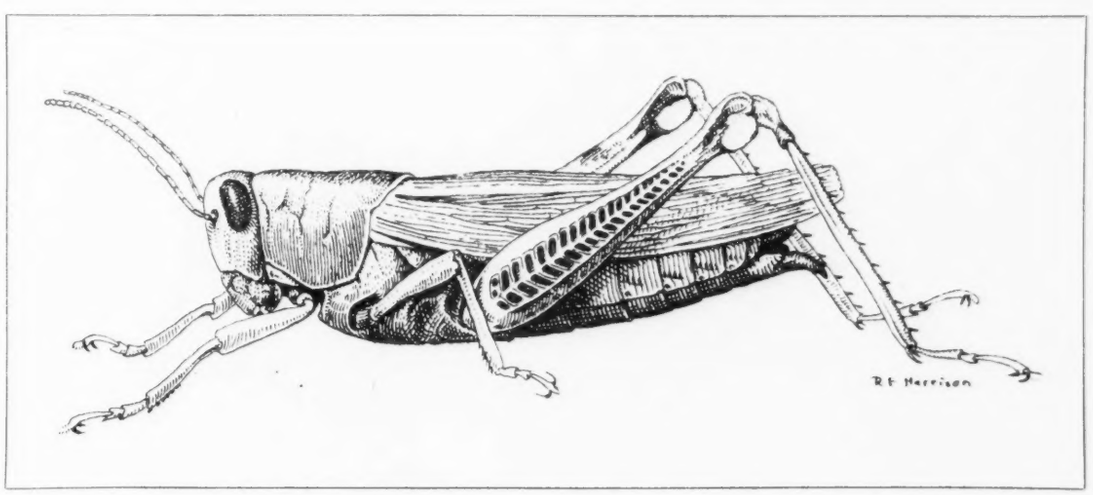
"Quite a business—building—isn't it?" I remarked. "What building did you build in ————————?"

"I built the Telegram Block there for Old Man Liff."

"Is that so? Do you mean that you prepared the plans for it—are you the architect?"

"H-e-l-l no!" he replied, "I was the carpenter foreman."

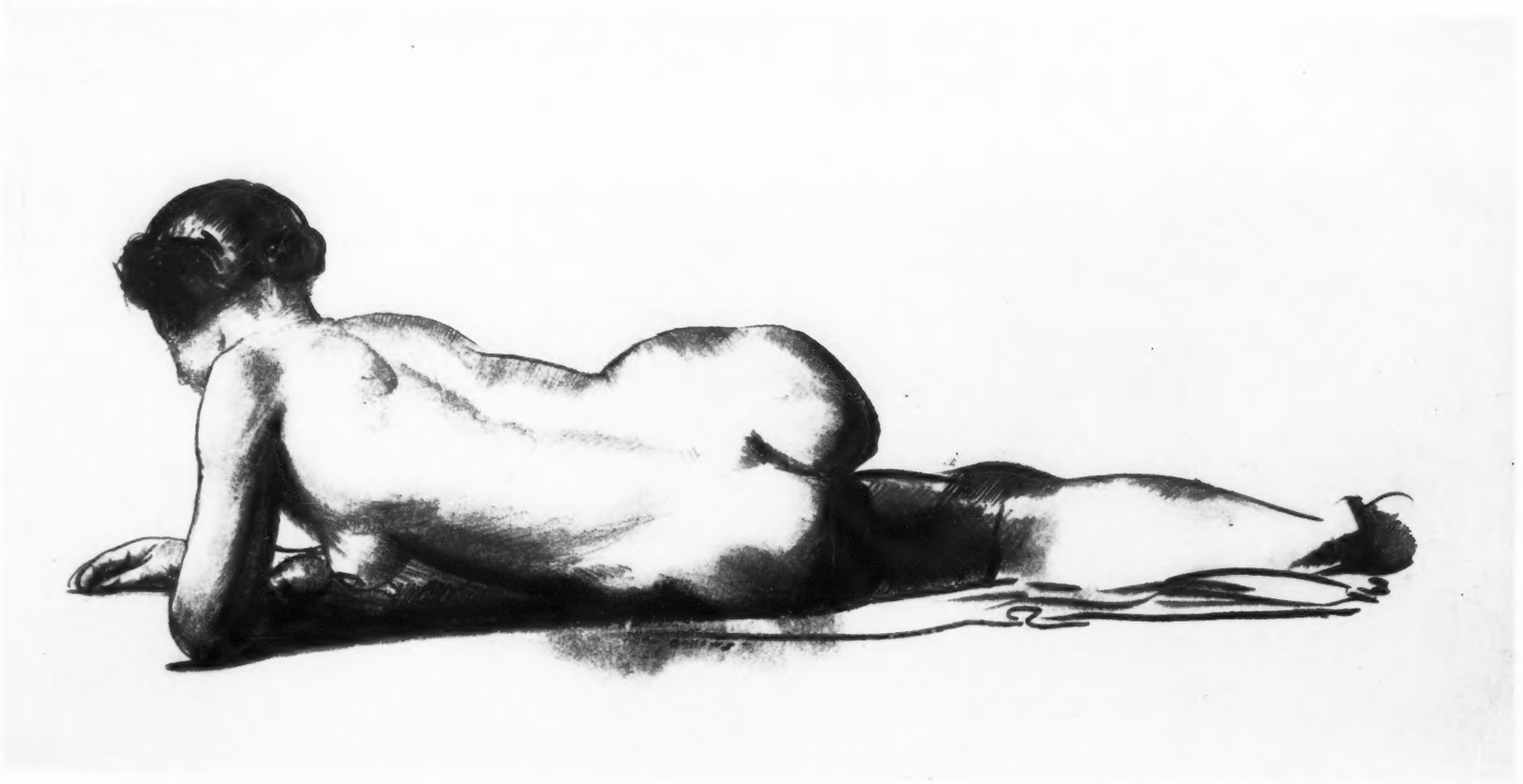
"Oh, I see," said I.



PEN-AND-INK DRAWING BY R. E. HARRISON

ILLUSTRATION FOR L. L. WOODRUFF'S "FOUNDATIONS OF ANIMAL BIOLOGY"

Reproduced by courtesy of MacMillan's



LIFE STUDY—FROM A LITHOGRAPHIC CRAYON DRAWING BY GEORGE BELLOWS

Office Efficiency Pointers

The Working Drawing System of Shreve, Lamb, & Harmon

By Irving Coryell

It would be very interesting, if possible, to have an accurate estimate of the number of unnecessary blue-prints that are made from a drawing turned out by the average architectural office. Due to a lack of system, the drawing is as a rule sent out haphazardly for prints—the exact number necessary is seldom ascertained—and the blue-prints are despatched in an equally haphazard manner to whomever the person executing the order thinks should have them. Records are kept in all too few offices. This leads, later on, to many arguments as to who did and who did not receive prints; and often tearing down work that had been erected from an older print results—the revised drawing having gone astray.

In cases of this kind legal action sometimes is resorted to, to determine who shall bear the expense of the error. Needless to say, the architect who has no way of proving that the mistake was not due to his negligence often has to pay for the correction. Of course, whoever is at fault should bear the extra cost—whether it be the architect, the general contractor, or the subcontractor—but naturally, all parties concerned try to shift the blame and save themselves. For self-protection, if for no other reason, every architectural office should have a system that proves conclusively that they are not at fault.

Many systems have been devised for the correction of this evil and the elimination of the subsequent superfluous blue-print bills. The majority of these systems have been so involved as to be utterly useless. Therefore, they have been discarded. Mr. Harry R. Dowswell, of the office of Shreve, Lamb, and Harmon, has worked out an unusually simple and successful method that, like all other routine in the office, moves smoothly, easily, and with characteristic precision. Under the form current in that office the *necessary* number of blue-prints is always procured on the *first* order and a back check is always possible. This back check will furnish the drawing number, the number of prints made, the names of those who ultimately received the prints, and complete information and instructions concerning the issuing.

It may be well, before explaining this system, to devote a few lines to the manner in which drawings are numbered in this office.

First—each division or trade has a general number which remains constant on all jobs. These general division numbers were selected to coincide with the correspondence filing system already in operation. Inasmuch as all correspondence relating to metal work was filed under the heading "35," the number 35 was retained when the drawing numbering system was set up. The numbers used for illustration in this article all follow the correspondence filing system numbers of this office and are purely arbitrary.

Architectural drawings are always numbered 20-XXX; metal drawings are always numbered 35-XXX; elevator drawings 32-XXX; structural steel drawings 23-XXX, and so on. Using this method an architectural scale plan of the third floor of any job would take the number 20-03. If the building was two hundred stories high, the two hundredth floor plan would be numbered 20-0200. In the case of the structural steel plan of the third floor the number would be 23-03; and the steel plan of the two hundredth floor would be 23-0200.

Architectural scale details take the number 20-1X, the "20" representing "architectural," the "1" representing "scale details," and the "X" representing the drawing number. Full size elevator drawings take the number 32-2X, the "32" representing "elevator," the "2" standing for "full size," and the "X" the drawing number.

As may be readily seen, this system allows for an illimitable number of drawings. There are no dead ends. If there were five hundred or ten thousand drawings in any category, the numbers would merely run consecutively to 500 or 10,000.

This method also affords a great saving in draftsmen's time in obtaining tracings from the blue-print file room. By actual tests conducted by Mr. Dowswell in an office of moderate size, it was found that by employing a visible index system, the daily cost of wasted drafting room time was $15.00. Six months later, after the installation of the system outlined, the same tests were made and the cost was found to have been cut 66 per cent, or to $5.00 a day.

By placing the scale drawings and details of each trade on tracings which show no other work, the architect is able, when issuing prints to the contractor for a particular trade, to issue only such architectural drawings as are requisite, plus the entire set of trade drawings. For example—in the case of the metal work a complete set of 35-XXX drawings would be issued together with two or three architectural scale plans. All unnecessary blue-prints are eliminated and a saving is effected.

Orders for Issuance of Blue-prints

Each job captain must fill out a Letter of Transmittal in triplicate at the time a drawing is ready for issuing. The blue-print file room, which orders all prints, will not accept a drawing for blue-printing unless it is accompanied by this form. These forms are consecutively numbered and in the upper left-hand

SHREVE, LAMB & HARMON
ARCHITECTS
11 EAST 44TH STREET
NEW YORK

RE: PACKAGE No. D 4227

TO: DATE

ADDRESS:

GENTLEMEN:-

WE ARE SENDING HEREWITH BLUE PRINTS ☐ TRACINGS ☐ SHOP DRAWINGS ☐
SPECIFICATIONS ☐ SAMPLES ☐ PHOTOGRAPHS ☐ AS FOLLOWS

DRW. NO.	NO. OF COPIES	REVISED	REMARKS

IF ENCLOSURES RECEIVED ARE NOT AS LISTED ABOVE KINDLY NOTIFY AT ONCE.

SENT BY:
ARCHITECTS MESSENGER
RECEIVER'S MESSENGER
EXPRESS
MAIL

VERY TRULY YOURS,
SHREVE, LAMB & HARMON
PER

THE LETTER OF TRANSMITTAL

corner is a line on which the words "Re Blank Job to ————————," then the name of the person to whom the order is consigned. This is, as a rule, the general contractor. Under the job name is a space for the job number. Also, in the space provided at the head of the form, the job captain must note the type of material being sent, whether blue-prints, photostats, shop drawings, samples, et cetera.

Under the heading a listing is made of the drawing numbers, and the number of copies of each drawing being sent to the consignee. This listing also contains the date of each drawing and the drawing title, such as plans, elevations, and so on.

In the body of the form is the space which contains the Letter of Transmittal. This letter embodies full instructions regarding the drawings, samples, et cetera, as well as the reason for being sent. It is an office rule at Shreve, Lamb, and Harmon's that abbreviations shall not be used in this letter; neither is a telegraphic style of writing tolerated. Each letter must be written fully and completely and correct English and punctuation are mandatory. The reason for these rules being rigidly enforced is obvious. The chance of erroneous interpretation from a letter written in full is reduced to a minimum.

The number of the Letter of Transmittal is then placed in the space provided on the drawing. This space, known as the "Issued Column," is immediately above the title box and is headed by the words "Sent to," "Number of Drawings," "Date," and "Package Number."* The duplicate copy of the Letter is then date stamped "Sent Out," as is every blue-print. The package number on the drawing may be consulted at any time and upon securing from the file a copy of the Letter of Transmittal full information for reference is at hand.

It is the duty of the blue-print file room to order all prints, and to wrap the drawings, enclosing the original Letter. The duplicate Letter is sent to the correspondence file in the general office, where it is filed with any correspondence pertaining to that particular drawing.

The majority of packages are delivered by one of the office boys. These boys sign a time-sheet register every time they leave the office; and when they are

The package number is the same as the number on the Letter of Transmittal.

REVISIONS

A. ELEVATOR CORRIDOR LENGTHENED 3'-2" TO COL. "G4"
B. DOOR TO MEN'S TOILET RM MOVED. FURRING ADDED TO COL. "J2".

SENT TO	NO	DATE	PKG NO	SENT TO	NO	DATE	PKG NO
CARTER	3	1-29-31	D-168				
DARKER	2	2-6-31	C-273				
THOMPSON	4	2-9-31	C-279				
REVISION "A"	2	2-11-31					
THOMPSON	4	2-11-31	C-592				
MEYER	2	2-11-31	C-395				
REVISION	B	2-13-31					
GARRETT	5	2-15-31	D-292				

BLANK BUILDING
826 EAST 47TH STREET
NEW YORK CITY

THIRD FLOOR PLAN
SCALE 1/8"=1'-0"

WORK NO	SHREVE, LAMB & HARMON ARCHITECTS	DWG NO
632	11 E. 44TH ST. NEW YORK CITY	20-03
JAN 26-1931		

REVISIONS

A 2-11-31	E	I	M
B 2-13-31	F	J	N
C	G	K	O
D	H	L	P

KEY TO MATERIAL

HOLLOW TILE
BRICK
STONE
CONCRETE

FORM FOR NOTING REVISIONS ON DRAWING

delivering a package they place the package number on the register beside their name, so that in case of a controversy regarding the delivery of a package, the name of the boy, the date and hour of his leaving the office are on record.

The triplicate Letter is retained in the blue-print file room for the use of the draftsmen, as well as a copy of the original drawing. Where a set of drawings has been issued for bidding purposes, an entire set is kept intact in the file. The blue-print file room also orders an extra print to go to the job captain for his use and reference in the drafting room.

REVISIONS

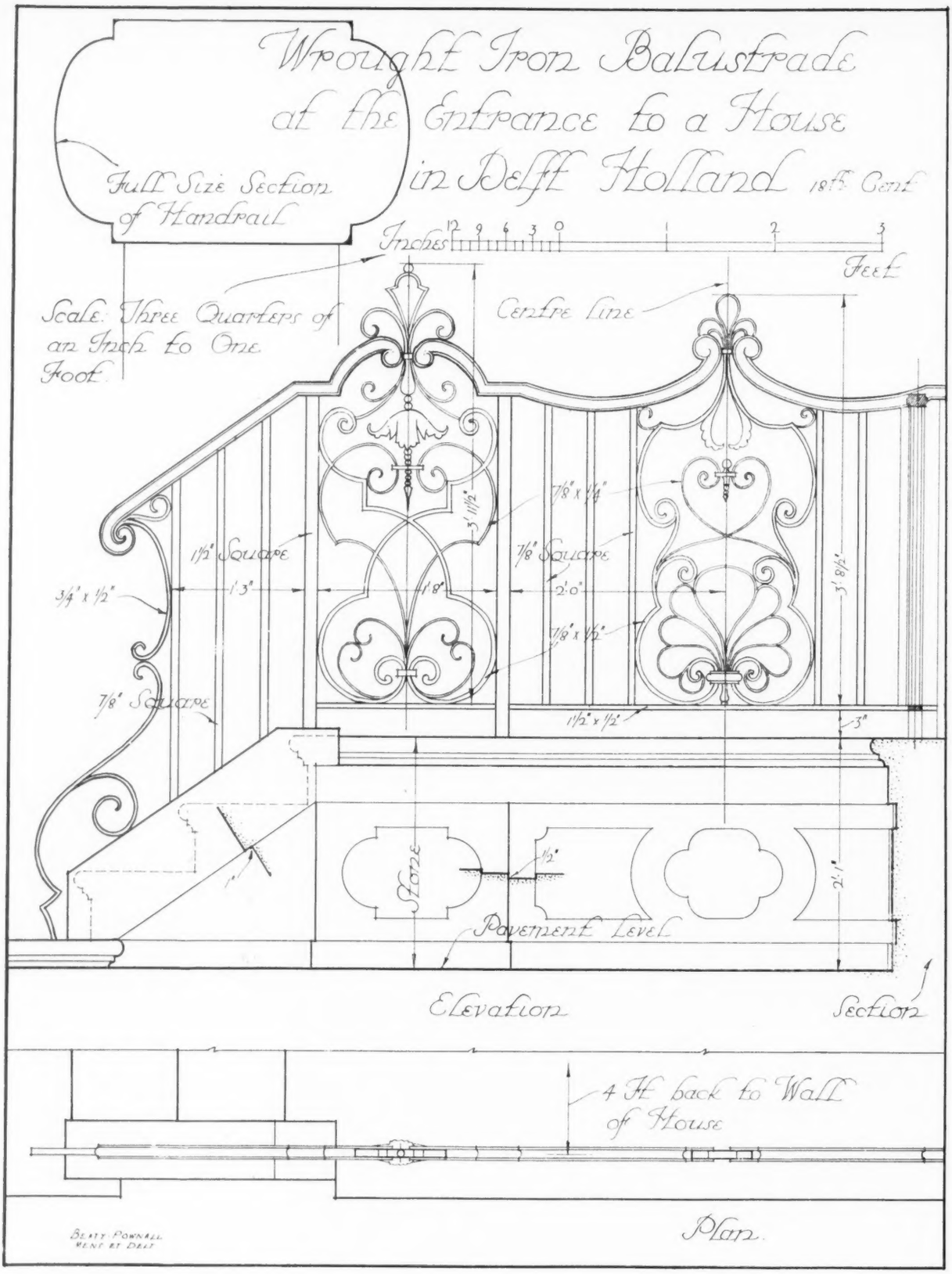
When changes are made on a drawing the draftsman keeps an itemized list of these changes in the "Revision" column, which is located in the upper right-hand corner of each drawing. Revisions are marked "A," "B," "C," et cetera, to "Z."

The revision is noted in three places. First—in the Revision column, where it is itemized; second—under the title box, where the date of the revision is also placed; and third—under the last "Issued" date appearing in the "Issued" column, above the title box. The drawing is then issued again, accompanied by a Letter of Transmittal as explained above. In addition to the record kept on the tracing itself, a new file copy is placed in the file until the job is completed, with any previous revised copies. A new drafting room copy is supplied and the old copy destroyed so that no one will work from it. A complete record of every blue-print made, and issued, is then on the tracing.

While at first glance the reader may feel that these office methods are complicated and entail considerable work, I feel sure that a more careful study will convince the most skeptical that they may be easily put into practice and kept in operation with a minimum of effort. And more important still, perhaps, is the fact that they are practically "fool-proof."

CONTE CRAYON DRAWING BY WILLIAM H. SCHEICK—HOFBRAUKELLAR, MUNICH

Size of original, 14¼" x 11"



MEASURED AND DRAWN BY WILLIAM BEATY-POWNALL

Comparative Details—Group 6
Door Hoods

Prepared for Pencil Points by Courtesy of the New York Architects' Emergency Unemployment Committee

Drawings by Philip Birnbaum from Data Supplied by the Architects

THE ARCHITECTS
whose details are shown on this and the succeeding pages are as follows:

JAMES BEVAN
ROGER H. BULLARD
HENRY OTIS CHAPMAN
DELANO AND ALDRICH
WALDRON FAULKNER
F. BURRALL HOFFMAN, JR. & MURRAY HOFFMAN
WALTER BRADNEE KIRBY
LAURENCE M. LOEB
ROBERT H. SCANNELL
MELVIN PRATT SPALDING

DETAILS PREVIOUSLY PUBLISHED

Dormers . . October, 1932
Fences and Gates November, 1932
Radiator Enclosures December, 1932
Second Story Overhangs January, 1933
Fireplaces . February, 1933

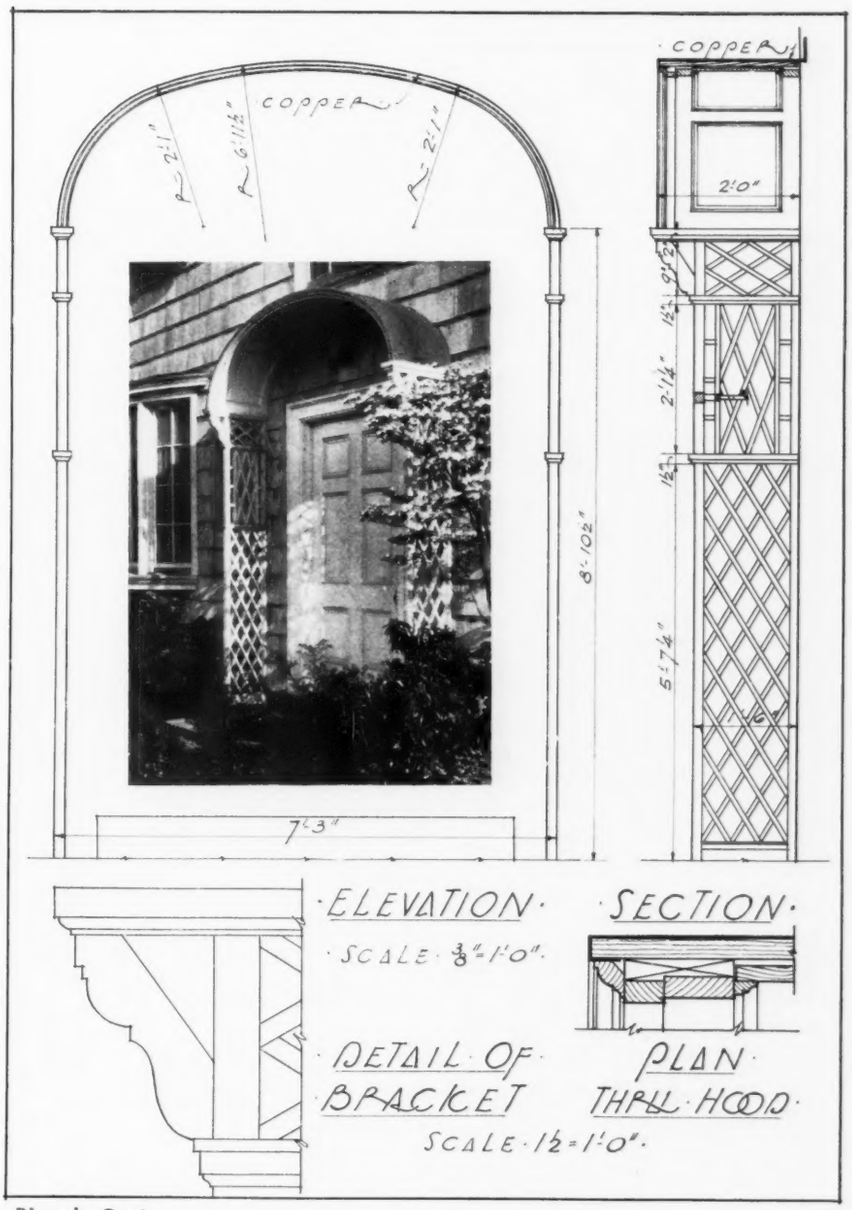


Photo by Garrison

RESIDENCE OF JOHN E. SEARLE, ESQ., WOODMERE, LONG ISLAND, N. Y.
Henry Otis Chapman, Architect

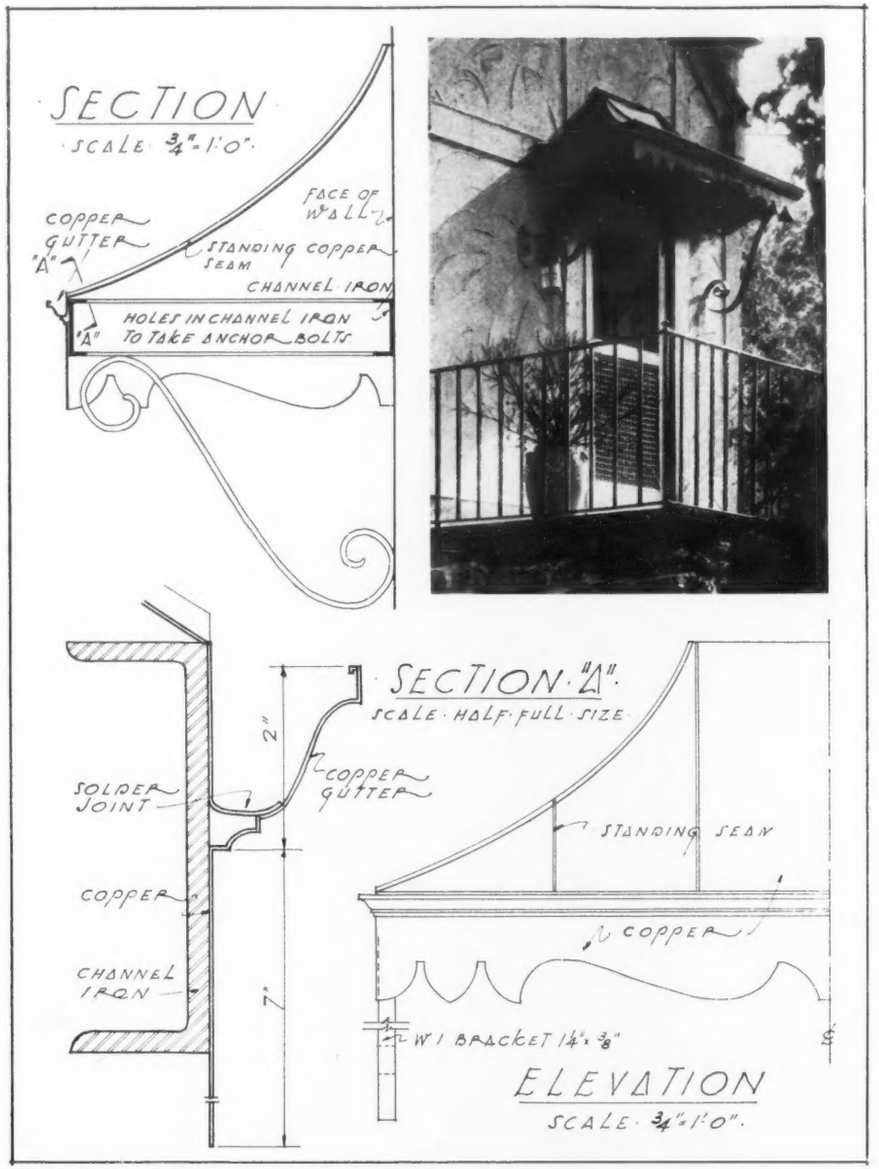


Photo by Van Anda

RESIDENCE OF NORTHROP CLAREY, ESQ., NEW ROCHELLE, NEW YORK

Laurence M. Loeb, Architect

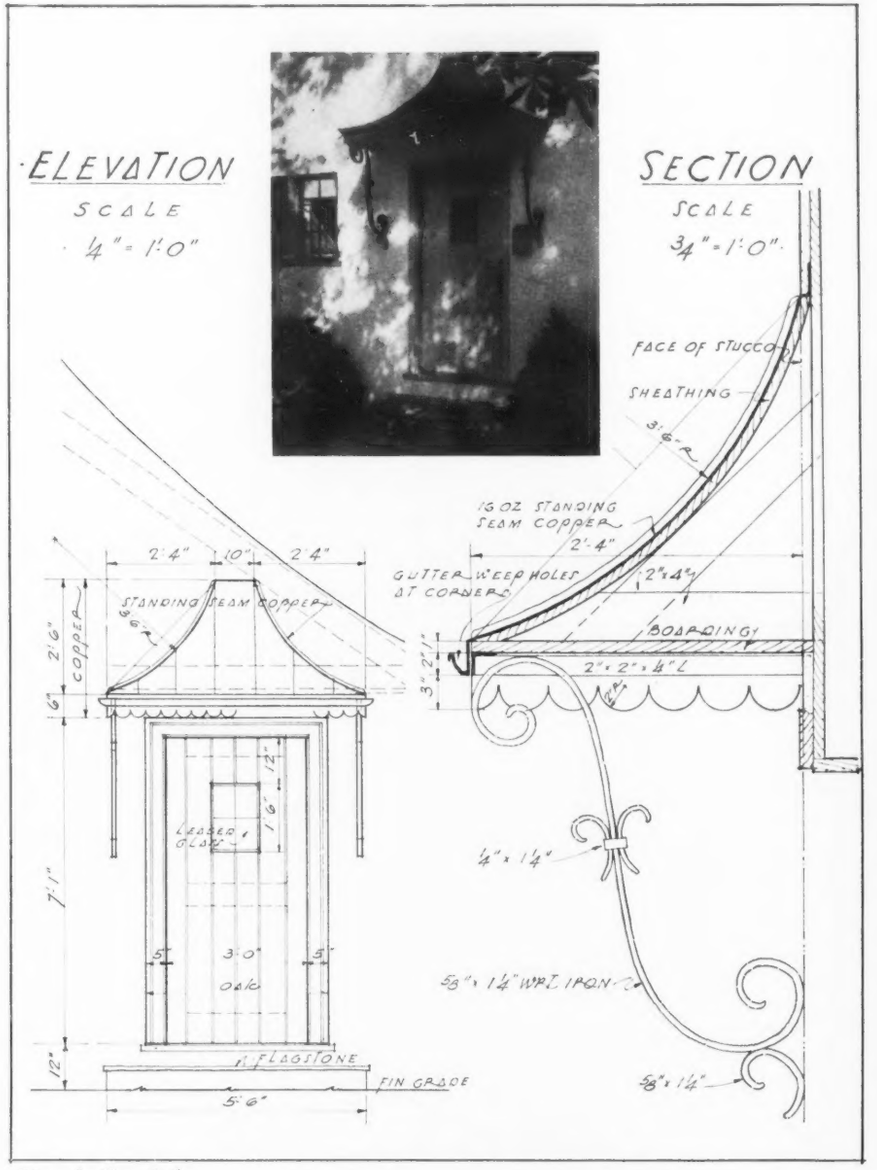


Photo by Van Anda

RESIDENCE OF WILLIAM O. CRALTREE, ESQ., EASTCHESTER, NEW YORK

James Bevan, Architect

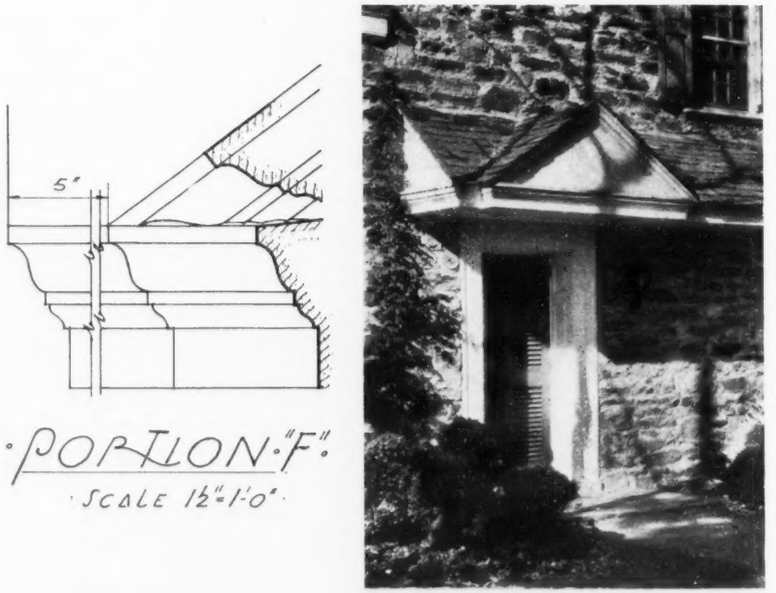


Photo by Van Anda

RESIDENCE OF ROGER H. BULLARD, ESQ., MANHASSET, LONG ISLAND, N. Y.

Roger H. Bullard, Architect

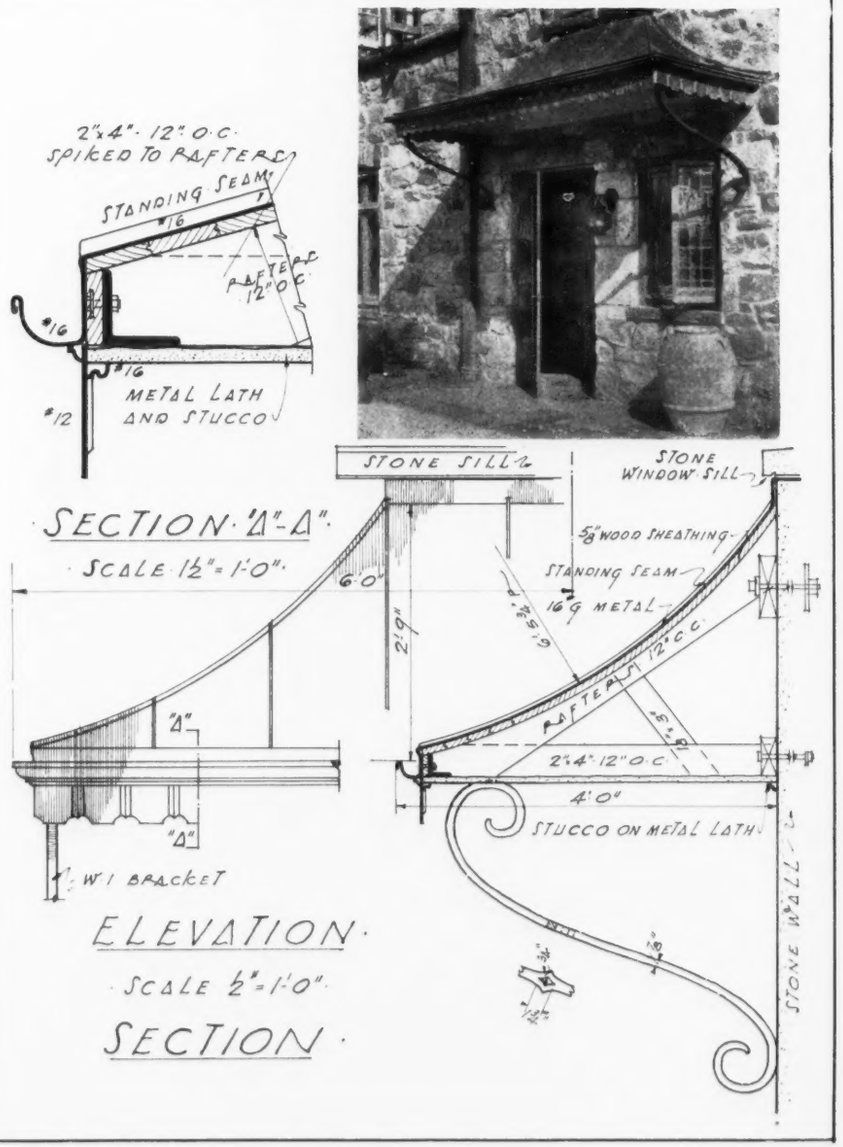


Photo by Van Anda

RESIDENCE OF HENRY A. RUDKIN, ESQ., FAIRFIELD, CONNECTICUT

Walter Bradnee Kirby, Architect

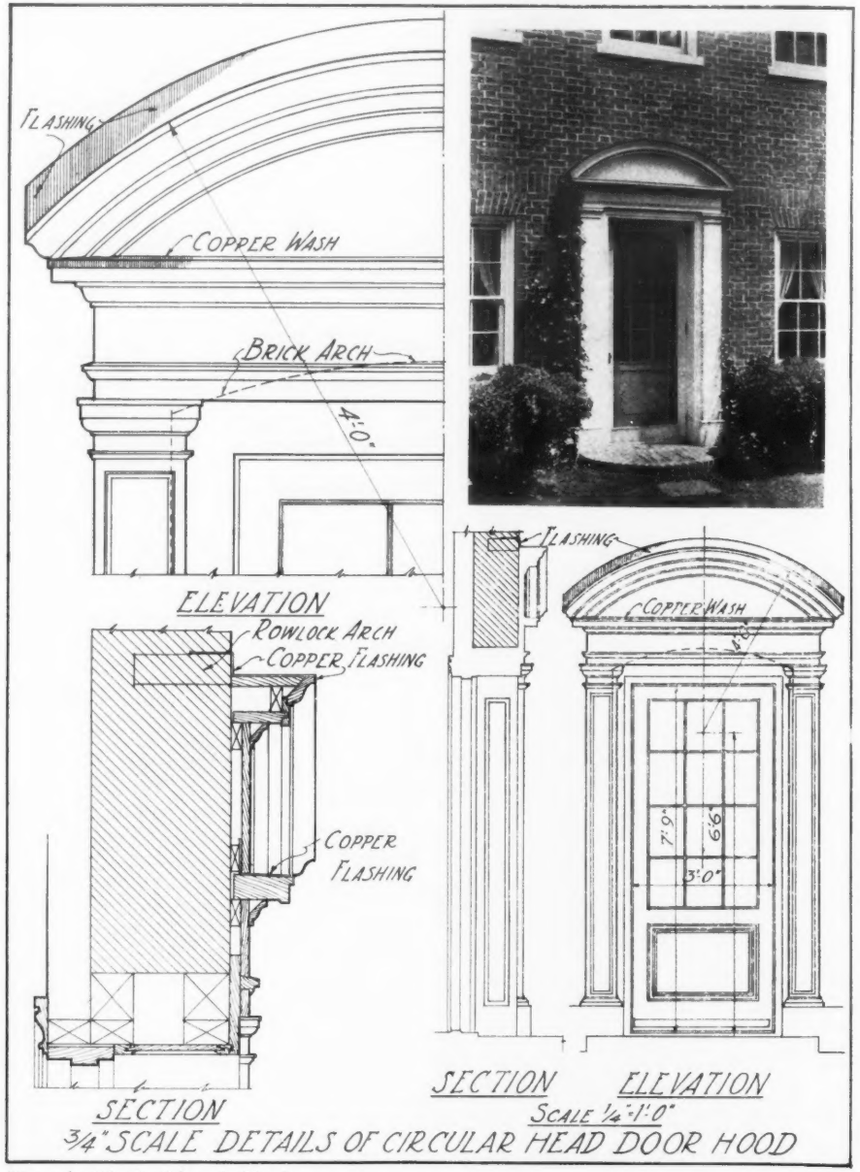


Photo by Mattie Edwards Hewitt

ESTATE OF JAMES A. BURDEN, ESQ., SYOSSET, LONG ISLAND, N. Y.

Delano and Aldrich, Architects

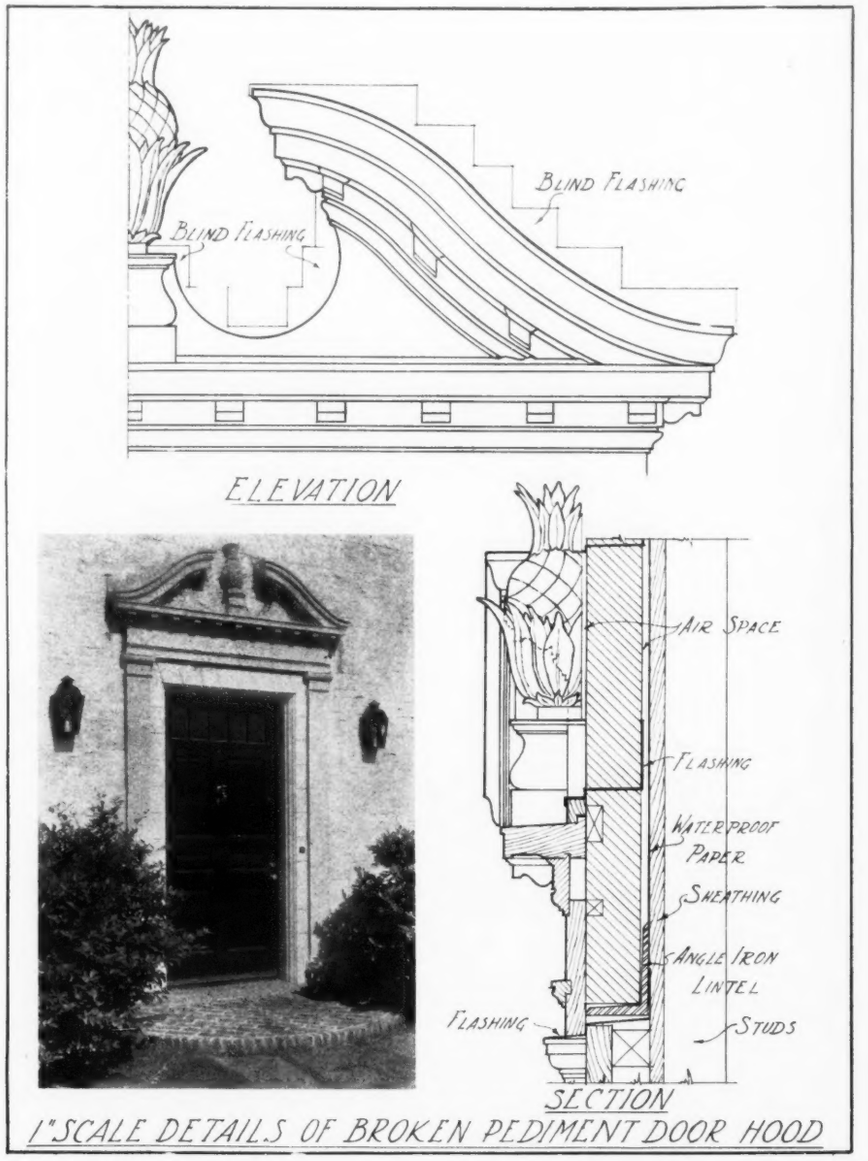


Photo by Mattie Edwards Hewitt

RESIDENCE OF ALFRED W. DATER, ESQ., FISHER'S ISLAND, LONG ISLAND, N. Y.

Delano and Aldrich, Architects

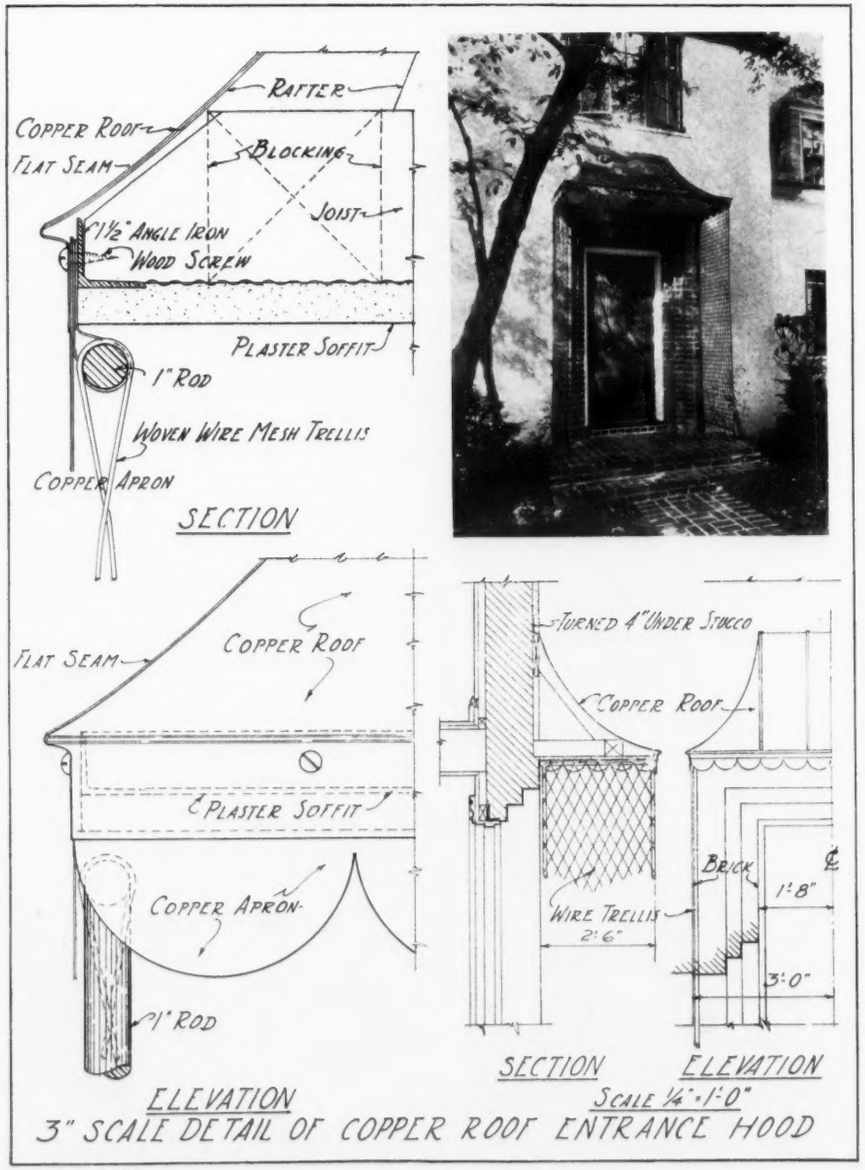


Photo by Gillies

RESIDENCE OF WALDRON FAULKNER, ESQ., BRONXVILLE, NEW YORK

Waldron Faulkner, Architect

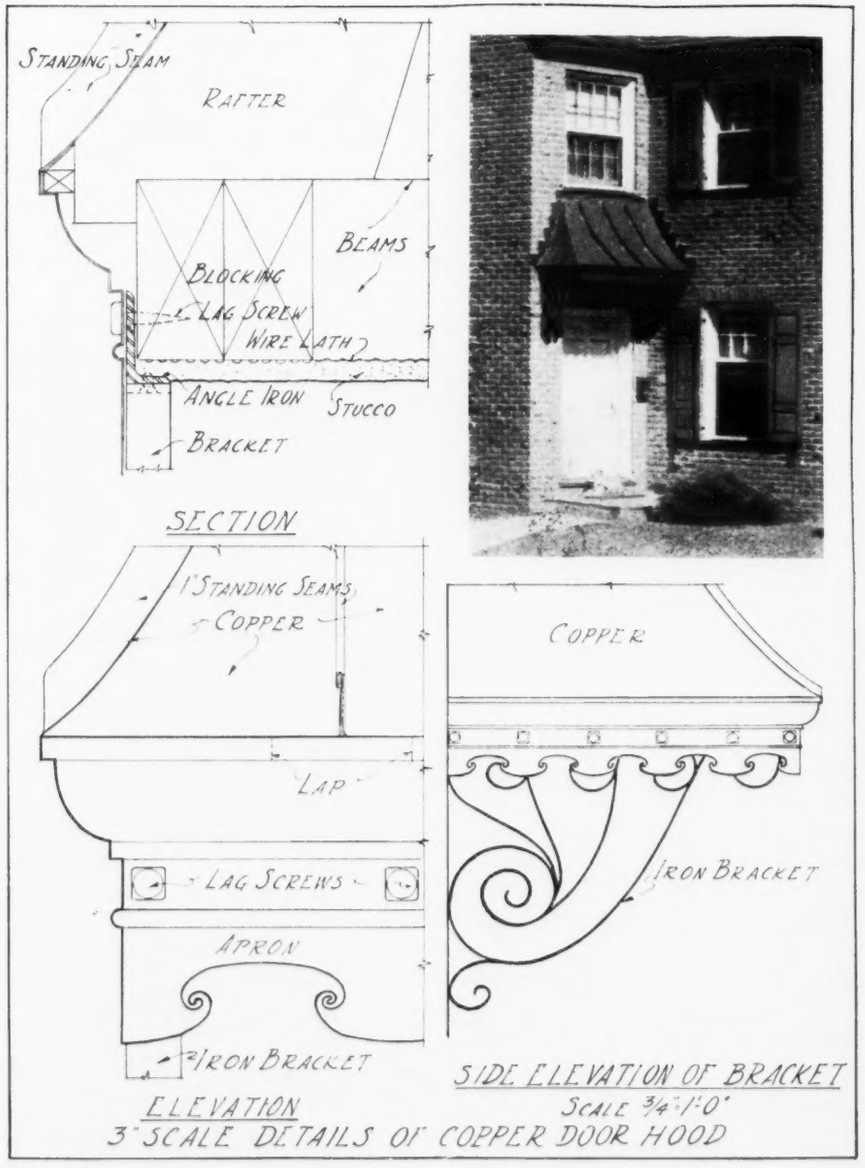
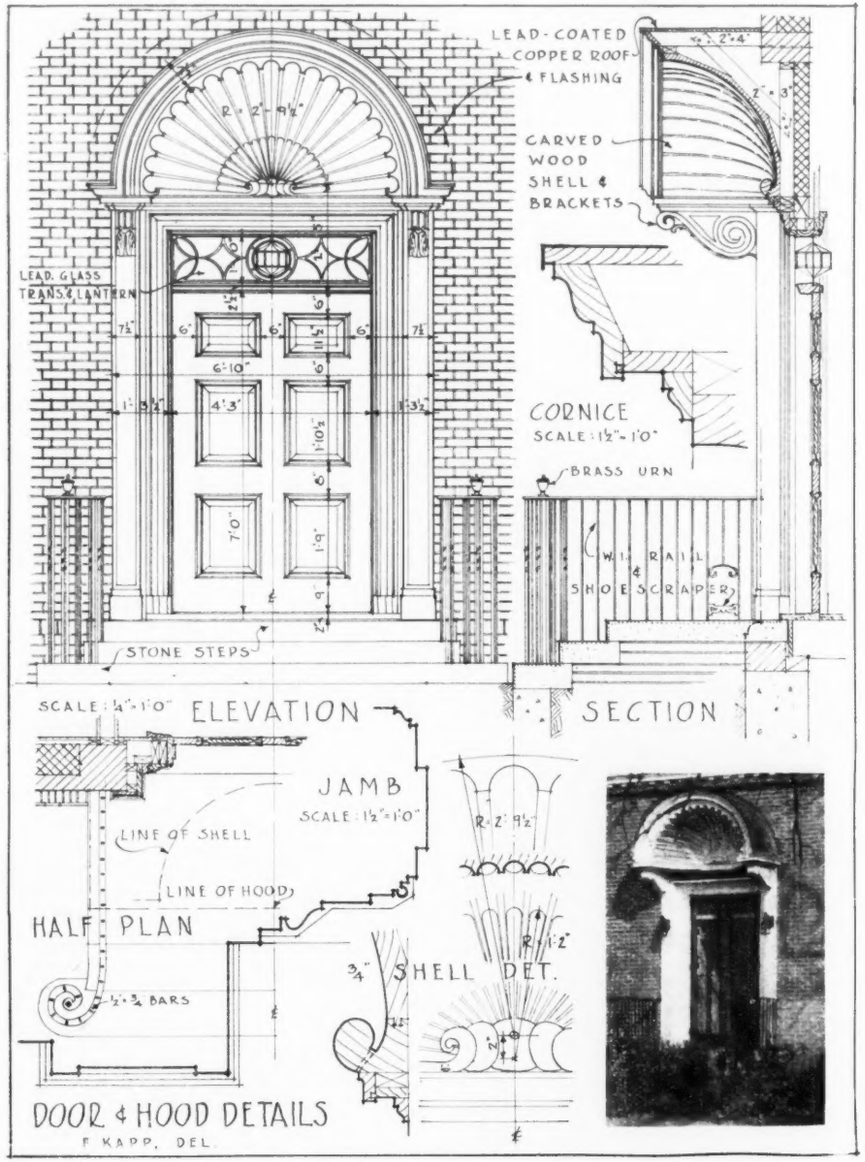


Photo by F. R. Rose

RESIDENCE OF RAYMOND ANTHONY, ESQ., BRONXVILLE, NEW YORK

Robert H. Scannell, Architect



DIBBLE MEMORIAL LIBRARY, AIKEN, SOUTH CAROLINA

F. Burrall Hoffman, Jr., and Murray Hoffman, Architects

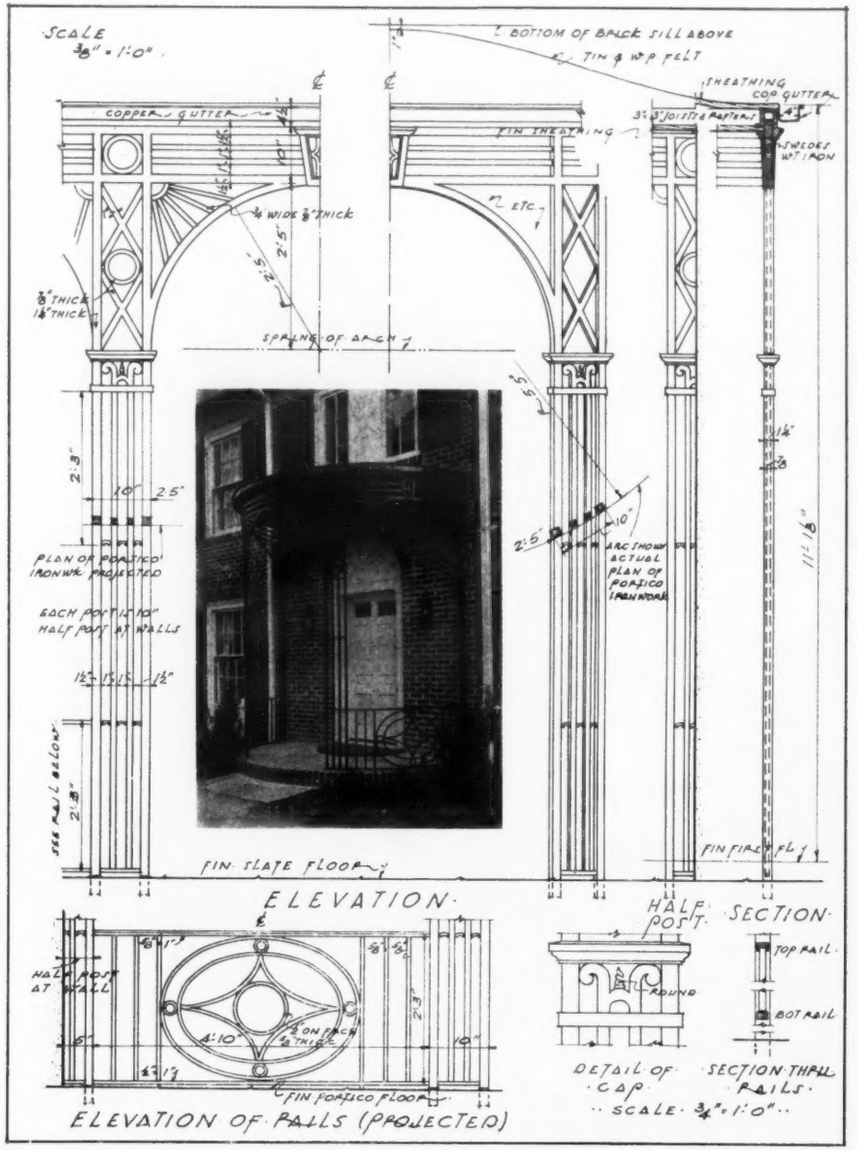


Photo by Tebbs and Knell

RESIDENCE OF GEORGE GRANT MASON, ESQ., YEAMANS HALL, CHARLESTON, S. C.

Melvin Pratt Spalding, Architect

HERE AND THERE AND THIS AND THAT

CONDUCTED BY E.L.C.

On page 68 of the February issue of PENCIL POINTS is a photograph of the residence of Mrs. Frank Vaughn at Southbridge, Massachusetts. At the time of going to press, we did not know the name of the architect but have since learned that the house was designed by Murray P. Corse, Architect, of Cambridge, Massachusetts.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

COMPETITION FOR TWO SCHOLARSHIPS

Two scholarships of five hundred dollars each are offered in the academic year 1933-34 for *special students* in the fourth or the fifth year of the course in Architecture at the Massachusetts Institute of Technology. They will be awarded as the result of a competition in design under the direction of the Committee on Design of the Department of Architecture.

The competition is open to citizens of the United States of good character, who are between twenty-one and twenty-eight years of age, and who have had at least three years of office experience.

The competition will be held from May 13 to May 22.

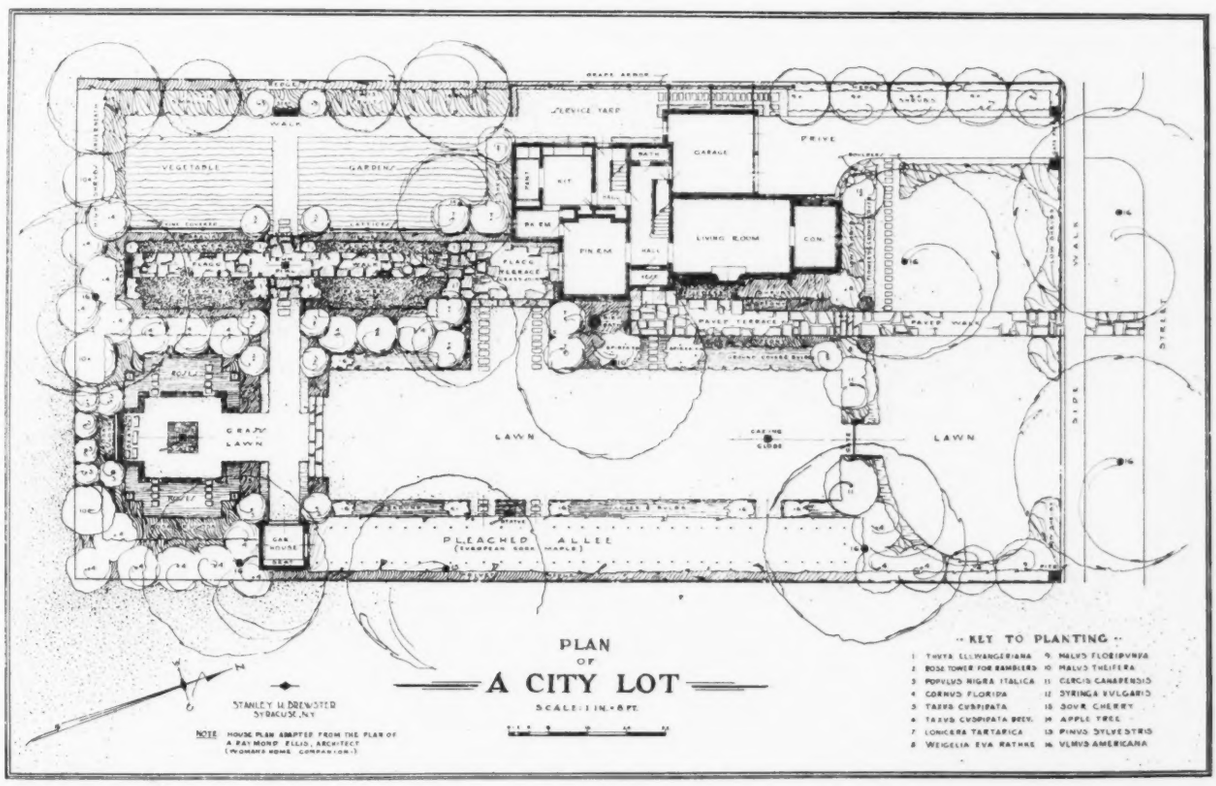
Competitors are allowed to prepare their drawings wherever conditions conform to the requirements of the Committee, but these drawings must be sent to Boston for judgment.

Applications should be received on or before April 17, addressed to Professor William Emerson, 491 Boylston Street, Boston, Mass.

THE MUSEUM OF MODERN ART

The Museum of Modern Art, 11 West 53rd Street, New York, has opened "The Architecture Room," which will be a permanent feature of the Museum. The room has been installed and decorated as an example of modern interior architecture under the supervision of Phillip Johnson, Director of the Department of Architecture. The furniture is designed by Le Corbusier, Pierre Jeaneret, and Charlotte Perriand. The colors of the room are gray, brown, and blue. Two walls of gray homespun have aluminum base mouldings. One wall is covered by navy blue raw silk curtains and the fourth wall is white. Two windows in this wall are of ribbed translucent glass. Curtains of white fish net cover this entire wall. The floor is dark brown linoleum.

Frequent exhibitions will be held in the Architecture Room, including exhibitions of architecture, furniture materials, industrial objects and modern typographical design. Architectural books, photographs, and periodicals will be available to the public for reference.



PROPOSED TREATMENT OF A CITY LOT, STANLEY F. BREWSTER, LANDSCAPE ARCHITECT

WINNING DESIGN IN COMPETITION HELD FOR ALUMNI AND STUDENTS OF LANDSCAPE ARCHITECTURE, OHIO STATE UNIVERSITY

Leo Friedlander's studies for the Arlington Memorial Bridge Equestrian Groups are shown on each side of the door in this view of the League Exhibition.

Annual Exhibition of the Architectural League of New York

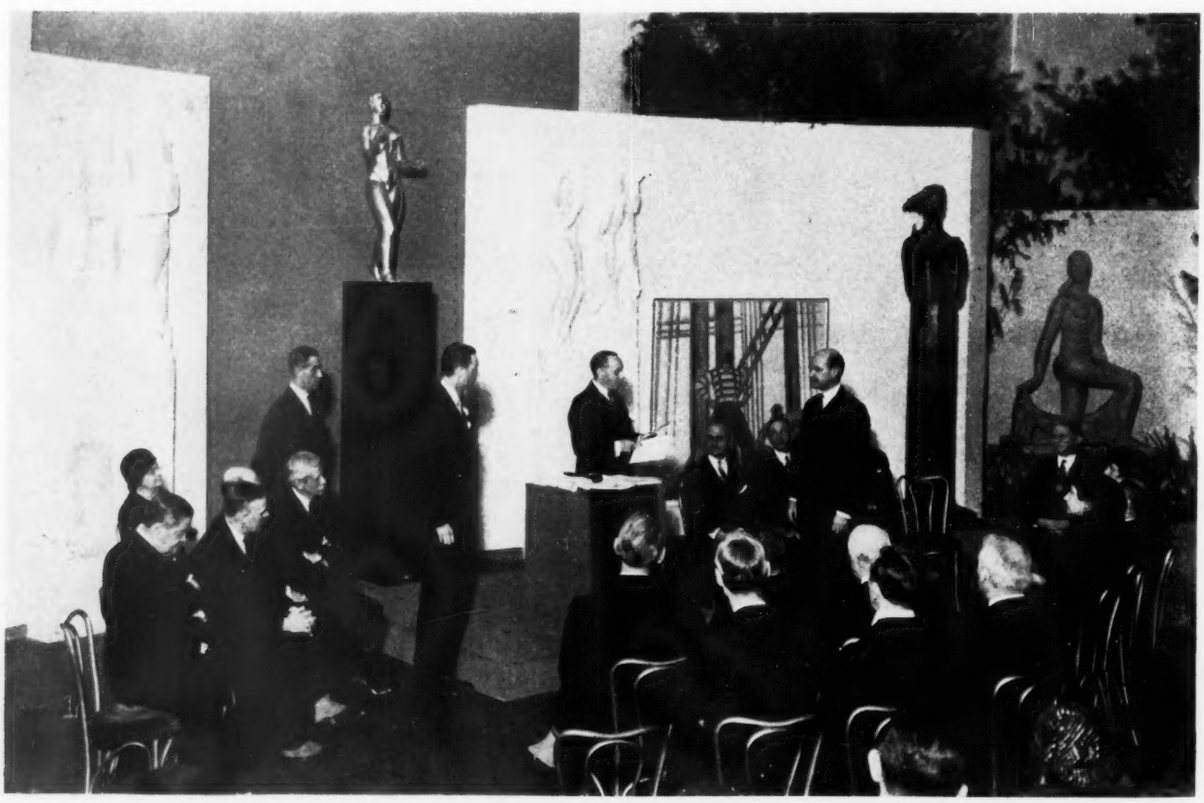
Photographs by Gottscho

The 48th Annual Exhibition of the Architectural League of New York opened at the Fine Arts Building on February 18th and will be on view until the 11th of this month. The architectural treatment of the galleries and the effective installation of the exhibits won for Joseph Urban the President's Medal.

The Gold Medal of Honor in Architecture was presented to Henry R. Shepley of the firm of Coolidge, Shepley, Bulfinch, and Abbott for the New York Hospital. This award is made for the orderly arrangement of the many and varied parts of an unusually complex problem, and the excellence of the plan and originality of the design. Thomas Harlan Ellett also received a Gold Medal of Honor in Architecture for his Cosmopolitan Club, "a fresh and personal interpretation, beautiful in its simplicity of form and material."

The Gold Medal in Decorative Painting was given to Thomas Hart Benton for his murals in the Whitney Museum, "in recognition of the freshness of his viewpoint, the vigor and mastery of his technique and the originality of his work."

The Gold Medal in Sculpture to Leo Friedlander for "the distinguished and monumental qualities shown in the studies for the Arlington Memorial Bridge equestrian groups and for the originality of his work as displayed in its relation to architecture." The equestrian models by Mr. Friedlander may be seen at the left.



The president of the Architectural League of New York, Julian Clarence Levi, presenting the Gold Medal of Honor in Architecture to Henry R. Shepley of the firm of Coolidge, Shepley, Bulfinch, and Abbott.

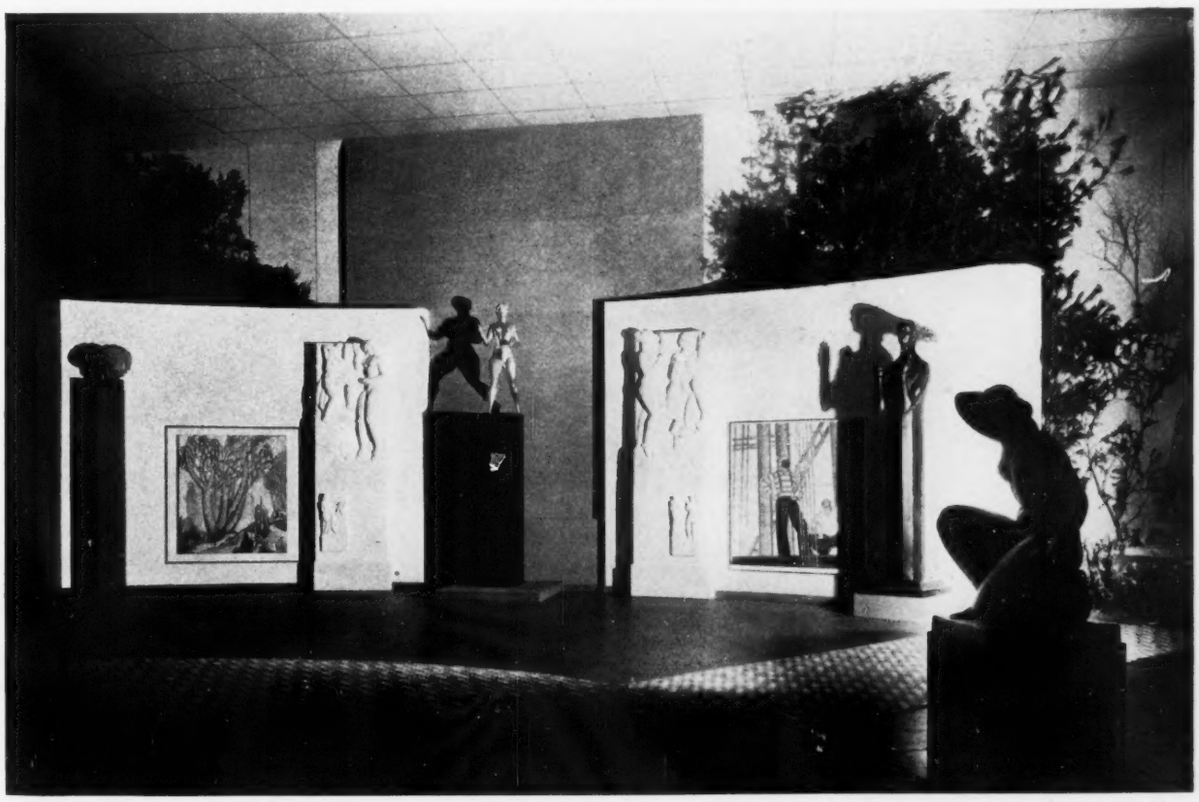
The Gold Medal for Design and Craftsmanship in Native and Industrial Art was presented to Joseph Urban for his model of a stage setting for a religious pageant and play. The award is "for excellent craftsmanship and design used in keeping with its grand purpose."

The Avery Prize for Small Sculpture was presented to Benjamin Franklin Hawkins for "A Fountain for Day Nursery." John Wenrich received the Birch Burdette Long Memorial Prize for his rendering of Building No. 1 in Radio City, and in recognition of his sympathetic and highly artistic presentation in color of architectural subjects.

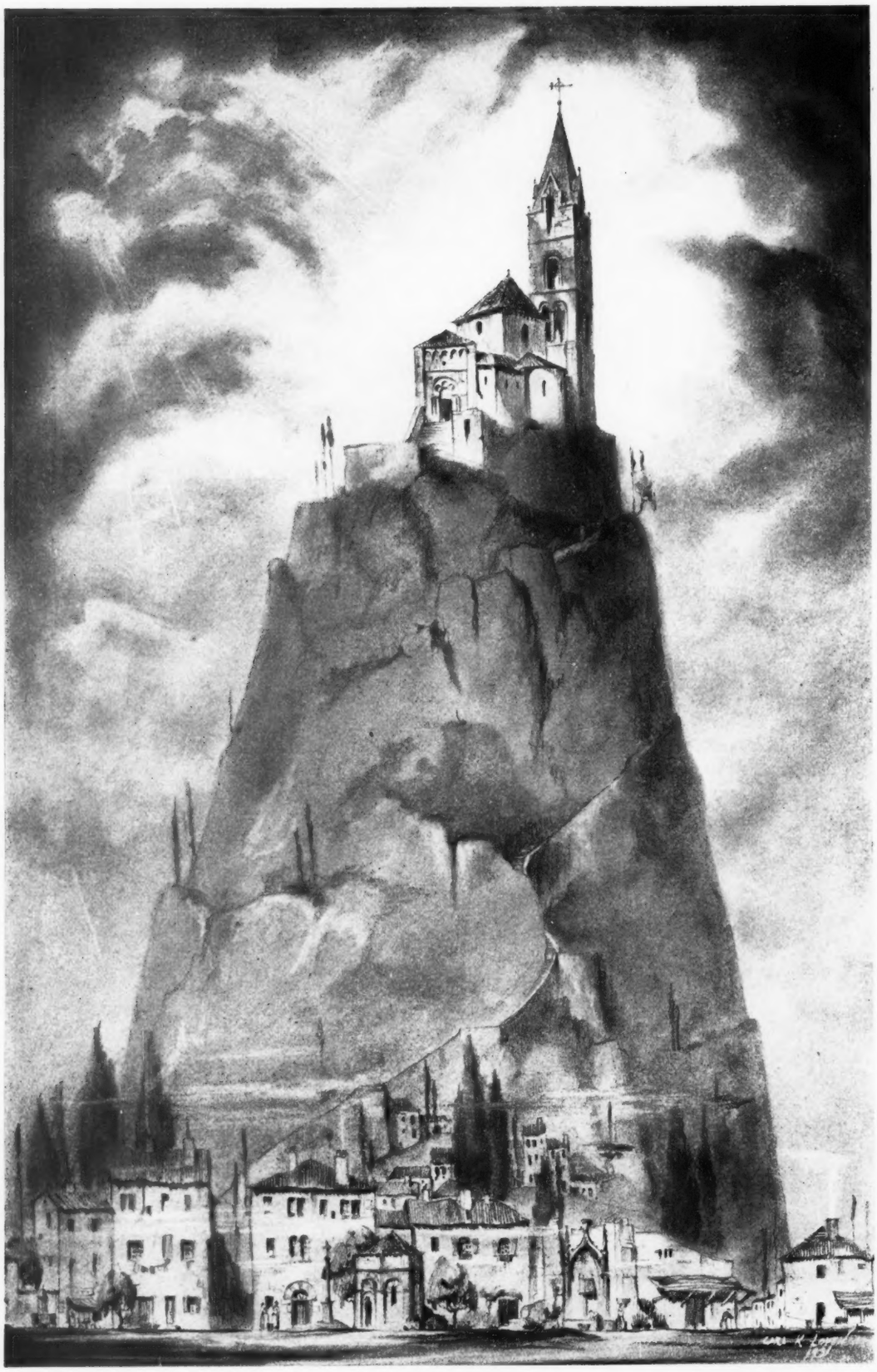
The Michael Friedsam Medal was awarded to George G. Booth, Founder of Cranbrook Foundation, "for the establishment of the Foundation and for his far-reaching knowledge and help in the field of Art in Industry."

Honorable Mention went to Harvey Stevenson, Thomas and Studds for the Peter B. Olney House, "for the simplicity and balance of mass, the restrained handling of details in sympathy with the materials and a quality of comfort and quiet dignity."

Honored by the Architectural League. Left to right: Henry R. Shepley, Thomas Harlan Ellett, Joseph Urban, Mrs. Thomas Hart Benton, Leo Friedlander, John Wenrich, and Benjamin Franklin Hawkins.



A Gallery in the Annual Exhibition of the Architectural League of New York showing sculpture by Gwen Lux, Leo Friedlander, Ernest W. Keyser, and Gaetano Cecere and paintings by Ada Cecere and Ernest Born.



THE CHURCH OF ST. MICHEL D'AIGUILHE AT LE PUY, FRANCE

FROM A CHARCOAL DRAWING BY CARL K. LOVEN, MADE WHILE HOLDER OF THE A. W. BROWN TRAVELING SCHOLARSHIP—MEASURED DETAILS OF THIS CHURCH WERE PUBLISHED IN OCTOBER, 1932

DRAFTSMAN'S DATA SHEETS

KITCHEN PLANNING

Prepared by Don Graf, B.S., M.Arch.

Sheet No. D3a

PENCIL POINTS Mar. 1933

POSITION OF KITCHEN IN THE HOUSE PLAN
Easy access to front door, rear door and deliveries, telephone, toilet, stairs to second floor, stairs to basement. Not a part of circulation. Should not have to pass thru kitchen to go from house to garage, basement to outdoors, house to broom closet.
As few doors in kitchen walls as possible, two is minimum and ideal. Sunny exposure not desirable, north light is ideal. View over children's play area sometimes advisable.

SIZE AND SHAPE OF KITCHEN
Preferably oblong, good average width is 8'-0" to 9'-0". Small as possible. "90 to 108 sq. ft."—U. S. Govt. Bul. 1513.

ROUTING
"Should proceed from right to left"—Jury of a national competition.
"Should proceed from left to right"—U. S. Govt. Bul. 1513.

ELECTRIC WORK
Outlets for refrigerator, toaster, percolator, dishwasher, grill. General illumination from center ceiling outlet. Local illumination at sink, range, work table, serving plane, 12" from wall near ceiling.

VENTILATION
Cross draft important. Windows close to ceiling, 4'-0" to stool.

LAUNDRY
Kitchen plan efficiency impaired by inclusion of laundry. Built-in ironing board useful for occasional emergency use.

BROOM CLOSET
Under no circumstances should this dirt-removing equipment be in Kitchen.

STORAGE PANTRY
Materials and equipment should be stored where they are used, not in a separate room or closet. The doorway to the storage pantry often takes as much kitchen wall space as the required storage facilities would have taken.

SERVING PANTRY
Has no place in the small servantless home.

BREAKFAST NOOK
Should be located so not to increase the distance from the Kitchen to the Dining Room.

THE RANGE
Locate to obviate cross-draft. Working plane 34" to 36".

THE SINK
Not under a window. Wall space over sink very valuable for storing equipment needed there. Work without facing bright light. Sink can be near Dining Room door for easy clearing away of dishes which is often impossible with sink under a window. Rim from 34" to 39" above floor.

THE WORK TABLE
Toe space 5" high and 3" to 4" deep, cove molding at the floor. Working plane 34" to 36" above floor.
Cabinet doors removable, for easy cleaning at the sink. Sliding, so worker doesn't have to step away to open them and to obviate cracking skulls in arising under swing door left open. Glass panel, so articles are visible without searching. No muntins, for easy cleaning, and better vision.
No live storage space over 7'-0" from floor.

GREAT CONVENIENCES
Linen chute hopper, incinerator hopper, desk for keeping kitchen records, exhaust fan for ventilation, adequate linen storage for table linen, dish towels, etc.

DATA SHEET NO. D3a. *Someone has estimated that fifty per cent. of a housewife's waking hours are spent in the kitchen, so it should be planned conveniently. All the data on this sheet have been taken from authoritative sources.*

THE DRAFTSMAN'S NOTEBOOK

Four Data Sheets appear each month, giving those many half-remembered facts which are constantly needed in the preparation of drawings—presented in concise, handy form. Criticism and suggestions are welcomed by Don Graf, in care of PENCIL POINTS, 330 W. 42nd St., New York.

Among this month's letters are interesting comments from R. H. Fletcher, New Haven; Robert A. Ward, Portland; G. P. Gregor, Niles; Orin Miles Grigsby Bullock, Jr., Williamsburg; Henry J. Hewat, Cleveland; Frank Peruggi, Brooklyn; R. A. Mueller, New York; Paul E. Baseler, St. Louis.

Will anyone in the audience knowing how to make Fixatif please write? Also formulae for photostat bleach, ink for writing in corrections on blue-prints, and any other useful concoctions for use in the drafting room, will be appreciated.

COMPETITION FOR GEORGE G. BOOTH TRAVELING FELLOWSHIP IN ARCHITECTURE

The College of Architecture of the University of Michigan announces the ninth annual competition for the George G. Booth Traveling Fellowship in Architecture. The competition begins on Saturday, April 8th, and the two following weeks are allowed for making the drawings.

The competition is open to graduates of the school who are unmarried and who are not yet thirty years of age.

Graduates resident in Michigan will make their drawings at the University. Those living in other states should make arrangements with their employers or others to supervise the making of the preliminary sketch and the final drawings.

Candidates may receive further information by writing the office of the College at Ann Arbor, Michigan.

AWARDS IN BETTER HOMES COMPETITION

Royal Barry Wills, Boston architect, has been awarded the gold medal for the prize-winning design in the Small House Architectural Competition for 1932.

President Hoover, honorary chairman of Better Homes in America, which sponsored the contest, presented the medal to Mr. Wills at the White House on Wednesday, February 15. Mr. Wills won the medal for designing the one-and-one-half-story home of Maurice A. Dunlavy at Brookline, Mass.

Honorable mention in the same class went to Charles S. Keefe, New York architect, for his design of the house owned by John J. Farrell of Darien, Connecticut.

In the one-story class honorable mention was placed first for the residence of Leland F. Fuller of Santa Monica, California, who is both the owner and the architect. Honorable mention also was awarded in the one-story class for the house of Dr. Seeley G. Mudd in Sandyland Cove, Santa Barbara County, California, by Ralph C. Flewelling, architect of Beverly Hills, California.

Honorable mention placed first in the two-story class went to the home of Dr. Alister Mackenzie, near Santa Cruz, California, which was designed by William Wilson Wurster, architect, of San Francisco.

Honorable mentions in the two-story class also were given to the home in Newtown, Conn., designed by William Webb Sunderland, architect, of Danbury, Conn.; to the home of Rollin C. Chapin, owner and architect, of Minneapolis; and to the home of Miss Anna B. Van Nort of Croton Heights, N. Y., designed by Miss Elisabeth Coit of New York.

Dwight James Baum, winner of the gold medal last year, was chairman of the Jury of Award which consisted of Edward Livingston Palmer, Jr., of Baltimore; Horace W. Peaslee of Washington, D. C.; Philip N. Stern of

Fredericksburg, Va.; and Waddy B. Wood of Washington, D. C., all members of the A.I.A.

The purpose of the awards is to discover and call attention to the best small houses built during the given period and to stimulate interest in overcoming faulty design and construction of the small home.

Dr. Ray Lyman Wilbur is president of Better Homes in America. The Board of Directors is composed of Mrs. Lillian M. Gilbreth, John M. Gries, Christian A. Herter, Miss Harlean James, Mrs. W. F. Lake, Mrs. William Brown Meloney, William Stanley Parker, Mrs. Harold Irving Pratt, and Mrs. James J. Storrow. James Ford is executive director.

COMPETITION ANNOUNCED

The Scovill Manufacturing Company of Waterville, Connecticut, has announced a competition open to all architects and to men and women who have been members of a recognized architect's organization at any time since March 1, 1932. The competition is divided into two classes: Class A: An essay, not to exceed 1500 words, on modernizing an apartment house, hotel, office building, residence, or any building involving plumbing specifications. Class B: An essay, not to exceed 1500 words, in which a hypothetical modernization commission may be assumed for the same problem as given for Class A. A prize of $100 will be awarded the winner of Class A, and $75 will be the prize in Class B. A more detailed announcement of the competition is published in the advertising pages of this issue. The competition closes at midnight, June 1, 1933.

TECH ARCHITECTURAL CLUB

The Tech Architectural Club of the Chicago Technical College held its first ball of the year in the college building on Saturday evening, February 11th. The affair was well attended both by students and faculty members, and all who attended are looking forward to the next event of this kind, which it is hoped will be held some time within the next two months.

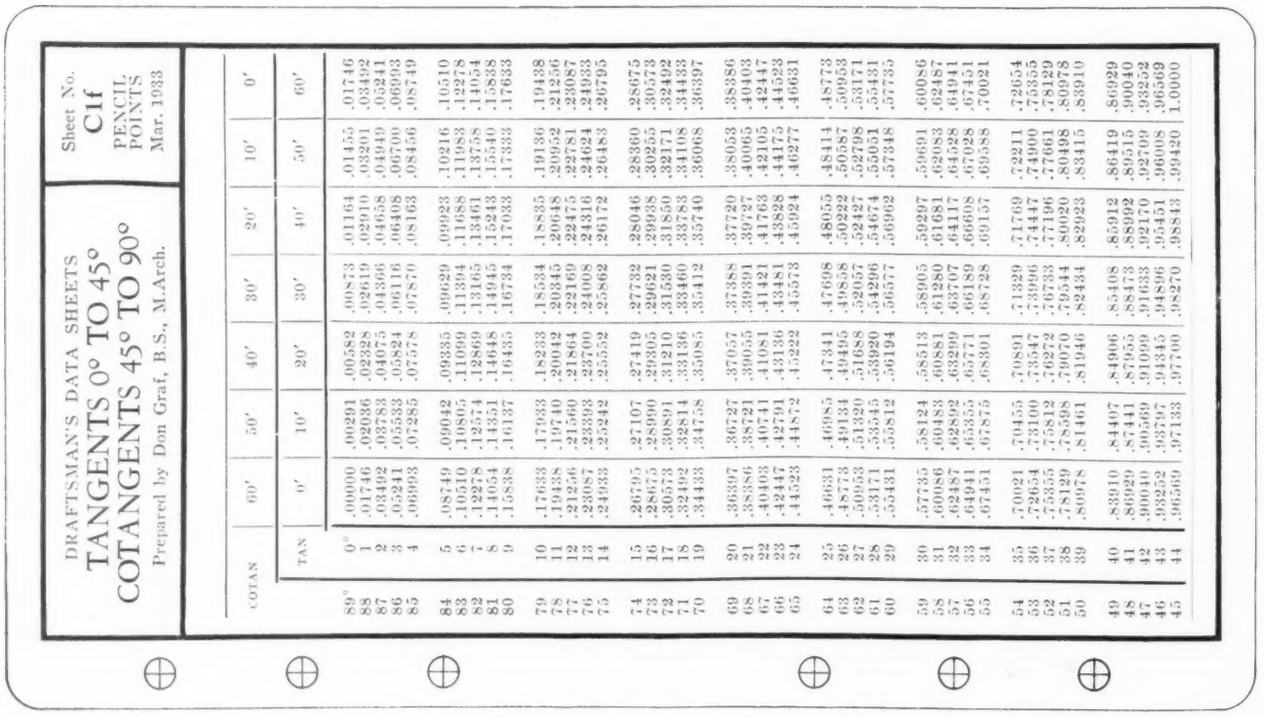
COMPETITION IN MODERN FURNITURE DESIGN

The American Walnut Manufacturers Association has announced a contest in modern furniture design. The competition is divided into two classes: Bedroom Suite, First Prize—$500, Second Prize—$200; Dining Room Suite, First Prize—$400. All drawings must be in the hands of the sponsors not later than March 31st, so those of our readers who are interested are urged to write immediately signifying their intention of submitting designs in this competition and requesting complete information. Address the American Walnut Manufacturers Association, 616 South Michigan Boulevard, Chicago, Illinois.

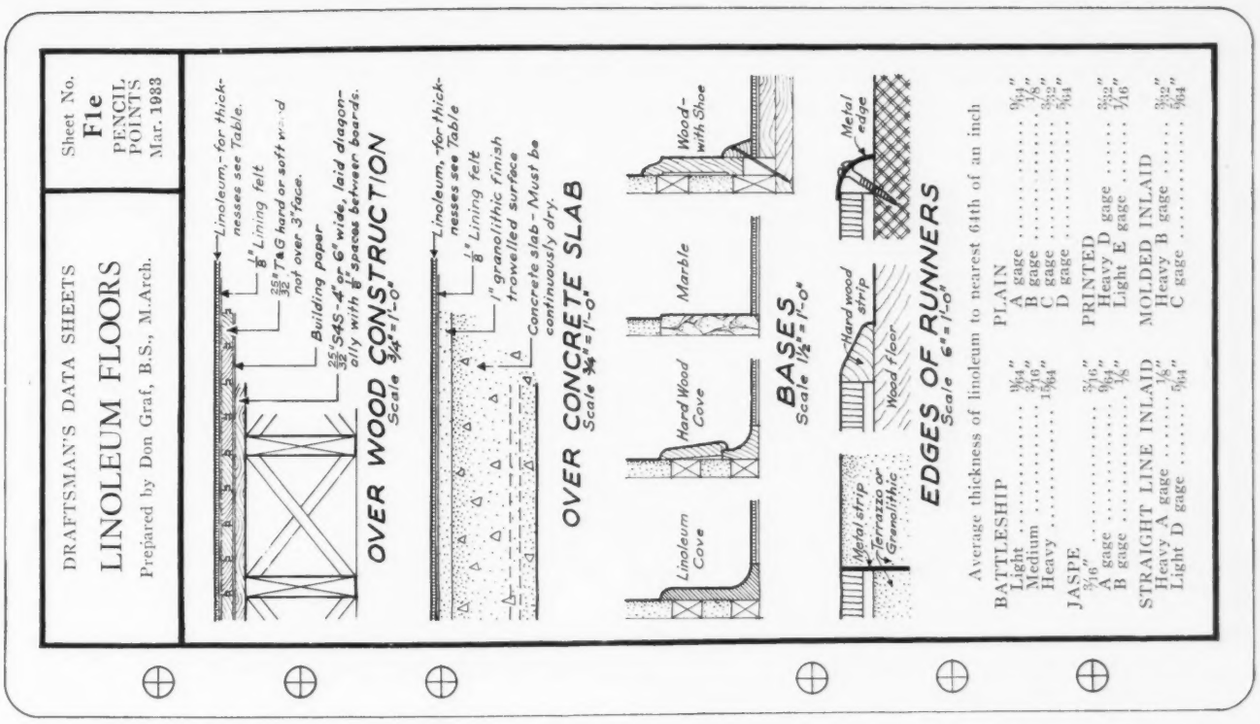
ARCHITECTS' CLUB OF CHICAGO

The Architects' Club of Chicago has started its World's Fair year with a new slate of officers and some new directors, as follows: R. J. McLaren, President; Charles W. Haynes, First Vice-President; John O. Merrill, Second Vice-President; Carl E. Heimbrodt, Secretary; and Henry Holsman, Treasurer. Alfred Granger has been elected to the board of directors. The House Management will continue under the direction of Robert C. Ostergren.

The annual meeting at which the new slate was formally elected was held Friday, January 27th. In conjunction with this meeting the Architects' Club held its Annual Party, a stag affair in which the atmosphere of a Frontier Roadhouse was created. Many of the members were in costumes of the "forty-niners" and one of the features was the staging of the drama, "The Shooting of Dan



DATA SHEET NO. C1f. *This is one of six sheets to appear giving the natural trigonometric functions. Notice the arrangement of the figures makes the use of the table less confusing than the usual scheme of reading up for one function and down for the other.*



DATA SHEET NO. F1e. *A linoleum floor can be no better than the sub-floor over which it is laid, so don't neglect the foundation. The average weights shown conform to U. S. Government requirements, and will help you to determine finished floor thicknesses.*

McGrew." About one hundred of the leading architects and builders participated in this affair.

New committees are being appointed by President McLaren to prepare for the World's Fair year. Preparations are being made by the Architectural Exhibition League to hold its Annual Exhibit at the Architects' Club in collaboration with the Architects' Club Exhibition Committee.

The Architects' Club of Chicago, on account of its splendid location, within a "stone's throw" of the Century of Progress Exposition, and its facilities for handling transient and permanent guests, meetings, banquets, exhibits, and so on, will be the center of the International Building Fraternity during the World's Fair. Invitations are being sent out to architectural and building societies to make the Club their headquarters.

A THOUGHT FOR OUR READERS

Editor's Note:—*The following letter came to us unsolicited from one of our readers who has evidently been thinking about the problems of the profession generally and those of the architectural publisher. We pass his ideas along for the consideration of architects and draftsmen who are still fortunate enough to be prosperously engaged.*

MR. RALPH REINHOLD, President,
THE PENCIL POINTS PRESS, INC.,
330 West Forty-second Street, New York City.

DEAR MR. REINHOLD:

I have just compared a copy of the December, 1930, PENCIL POINTS with the issues of January and February, 1933. I note the advertising pages have been reduced in number about 75% (what a sock on the financial jaw!), yet the text pages have only decreased about 25% in number and the matter as interesting as ever.

Having been interested in PENCIL POINTS since its first issue ten or twelve years ago—not always a direct subscriber but always a reader—I have noted its steady growth to a press issue at one time of over 21,000 copies.

This letter is written as one friend to another and carries a suggestion which might be interesting.

Owing to the extremely depressed conditions, I believe I am correct in assuming that your list of regular subscribers has also decreased in numbers. Perhaps few readers actually know that advertising and circulation go hand in hand, therefore this letter is going to be in the interest of circulation.

PENCIL POINTS has always been a friend of the Architects and Draftsmen, now it is quite fitting that we stand behind the magazine we look forward to receiving each month.

I would like to suggest that every architect, draftsman and reader of PENCIL POINTS who is now fortunate enough to be employed, or financially able to do so, take notice of his less fortunate brothers and send in subscriptions for a year for one or two of them. I don't think there is a "Pencil Pusher" in this country who would not respond to the thought, especially knowing that the friend out of work would find cheer in the pages he loves so well, at the end of a day, which perhaps was spent in fruitless search for work of any kind.

I have been giving the present situation a great deal of thought, many changes are taking place, but I really do not see very much improvement in the demand for draftsmen, nor do I look for any immediate demand, but their morale must not be allowed to ebb, there must be something to keep them interested, I have several plans which I might pass on to you from time to time, with your permission, in the meantime this is *entre nous*, but I hope my suggestion will result in building up the "Old Subscription List" and making every one feel glad from yourself to the "Printer's Devil" in the shop.

Yours very truly,

(*Signed*) J. C. VALADIÉ
New Orleans, La.

JAMES M. WHITE

1867—1933

The death of Professor James M. White, F.A.I.A. (October 16, 1867—February 6, 1933), has removed from the professional ranks a tireless, unselfish worker for the advancement of the best in architecture. A member of an important family of educators, he was intensely interested in the younger members of the profession, both individually and collectively.

Professor White was identified with the University of Illinois for nearly fifty years, first as a student, then successively as instructor, professor, dean of the College of Engineering, and finally, for the past twenty-six years, as Supervising Architect; yet he died a comparatively young man as careers are measured. He saw the University grow from two or three to more than eighty major buildings, in the construction of which, with but few exceptions, he had a very vital part. Always striving for the best, he brought about an associateship with Charles A. Platt who assisted him with the design of the campus buildings constructed during the past ten years. Professor White was also instrumental in securing the appointment of Ferruccio Vitale as Consulting Landscape Architect for the University of Illinois campus.

In addition to his work at the University of Illinois, Professor White found time to serve as consulting architect at the Universities of Kentucky, Texas, North Dakota, Akron, and Miami—largely on campus plan problems.

Professor White had been continuously a member of the Illinois Architectural Examining Committee since 1918, and his opinions on registration problems were highly valued throughout the country. At the time of his death, Professor White was president of the National Council of Architectural Registration Boards, and Chairman of the A.I.A. Committee on Registration Laws.

His interest in non-professional activities made him an early Governor of Rotary International. He was President of the Illinois Union Board of Trustees, and a past president of the Central Illinois Chapter, A.I.A.

Professor White was a member of the Illinois Society of Architects, the Chicago Architectural Club, and the University Clubs of Urbana and Chicago, in addition to other professional organizations.

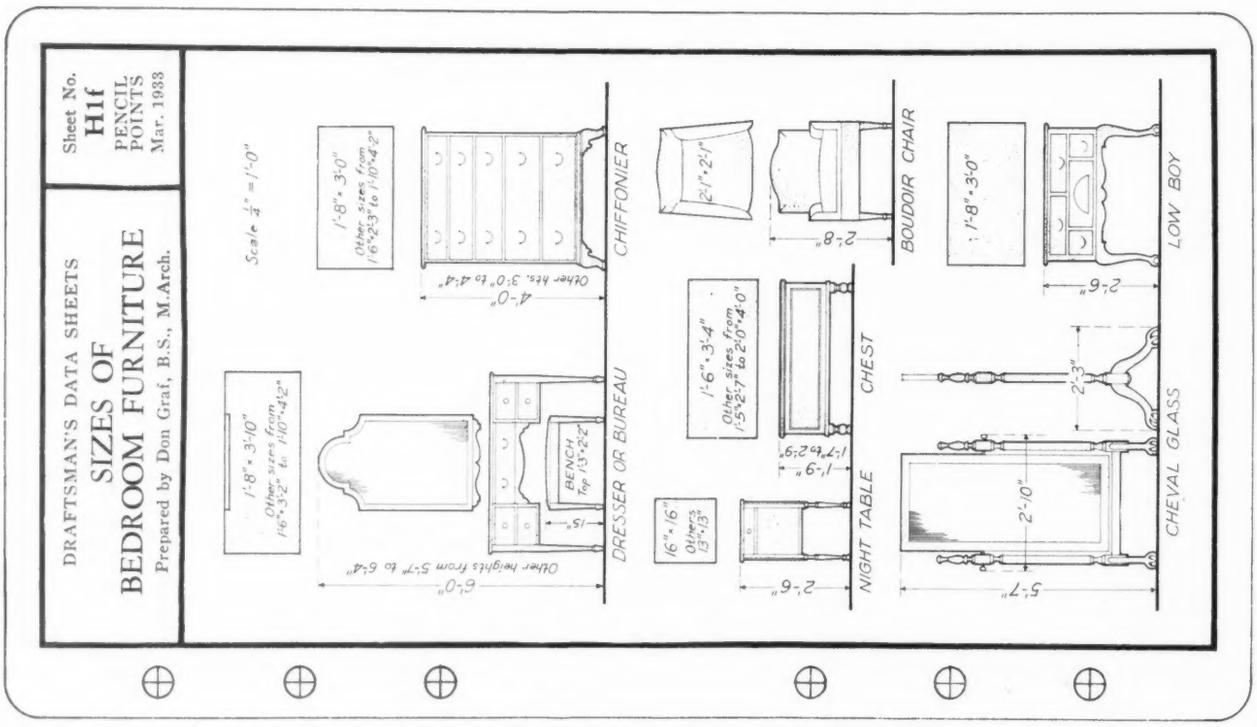
We who were privileged to be closely associated with Professor White have lost a great friend and teacher, the profession at large one of its leading members.—*Ernest L. Stouffer, A.I.A.*, Assistant Supervising Architect, University of Illinois, Secretary, Central Illinois Chapter, A.I.A.

EXHIBITION OF ARCHITECTURAL WATER COLORS

The exhibition of Edwin H. Denby, A.I.A., comprising water colors of architectural subjects, will remain open to the public during this month in the Gallery adjoining Mr. Denby's office at 333 Fourth Avenue, New York.

Among the drawings are views of various countries: France, Belgium, Italy, Sicily, Greece, Turkey, Syria, the Holy Land, Egypt, and Spain, and on this continent: of Bar Harbor, Maine. There are approximately one hundred, done during various trips abroad. Some have received Honorable Mention in the Architectural Department of the Salon in Paris, and prizes in various exhibitions, but this is the first time that the entire collection has been shown to the American public. They contain architectural data of considerable importance from which many of the structures depicted could be reconstructed.

All those who are interested in any of the subjects covered by pictures in this exhibition are cordially invited to come, study this work, and bring their friends. These pictures are not for sale.



DATA SHEET NO. H1f. *As a help in planning the bedroom the above sheet and another next month on bed sizes should be useful. Measurements show the range of sizes on display in the Paine Furniture Company of Boston, one of the leading furniture houses of the East.*

THE SPECIFICATION DESK

Whys and Wherefores of the Specification

16—Miscellaneous Iron, 1

By Philip G. Knobloch

Editor's Note:—*In this series, which started in the October, 1930, issue of* PENCIL POINTS, *Mr. Knobloch is taking a specification actually used by him on a definite job as a basis for his discussion of the "Whys and Wherefores of the Specification." The actual specification used for the job is printed in italics followed by the author's explanation as to why the different materials and methods of construction were specified. Where necessary to make the points more clear, Mr. Knobloch has made detail drawings showing the construction. The parts of the specification which have already appeared are: "Introduction," "Demolition and Excavating," "Concrete Work," "Masonry," "Structural Steel," "Granite—Limestone—Bluestone," "Roofing and Sheet Metal Work," "Carpentry," "Tile Work," "Interior Marble, Slate, and Structural Glass," and "Plastering."*

Letters from our readers commenting upon the series will be welcomed.

GENERAL CONDITIONS

General conditions of the contract of the American Institute of Architects, current edition, shall form a part of this Division, together with the Special Conditions to which this Contractor is referred.

ARBITRATION CLAUSE

Any dispute or claim arising out of or relating to this Contract, or for the breach thereof, shall be settled by arbitration. Arbitration shall proceed under the requirements specified in the General Conditions, current edition, of the American Institute of Architects; or under the Rules of the Arbitration Court of the New York Building Congress, or of the American Arbitration Association, and judgment upon an award may be entered in the court having jurisdiction. One of these methods of arbitration shall be chosen at the time of the signing of the Contract, or, if not then determined, the choice of these methods shall be at the option of the party asking for arbitration.

SCOPE

The work included in this Contract comprises all the ornamental and miscellaneous iron, kalamein, etc., as indicated by the Contract Drawings No.—— to No.—— and as hereinafter specified.

When writing specifications for miscellaneous iron work it is well to include all work such as wrought iron, bronze, metal windows, metal stairs, metal covered doors, etc., provided that these items are not of major proportions. For example, a metal bank screen which would constitute a good sized contract due to the amount of labor and material involved would necessarily be better handled under a separate heading, whereas it would be quite unnecessary to provide a separate head for a metal rail at the entrance if that included all that type of metal work for that particular job.

Separate divisions for small quantities of materials requiring a minimum of work and simplicity of installation would naturally pad the specifications so that they would become quite uselessly bulky. On the other hand, including all items under this head when several are of major importance would make this heading a very unwieldy division. Summing up, it could be said that any item that can be covered in a few paragraphs could be well included under this heading. This of course applies to materials relative to miscellaneous iron.

With various manufacturers known for their reliability, and whose products have been consistently in accordance with the best standard requirements, the necessity for detailed specifications relative to their materials has been eliminated.

For example, supposing we indicate on the contract drawings a metal covered door. There are many manufacturers, all of them reliable, building this type of door; therefore, it is only necessary to state whether the doors should be an "Underwriters' Label" door (approved by the Underwriters) or merely a standard type door and mention three manufacturers. This will safely cover this item. The substitution of a manufacturer not listed is permitted provided the contractor receives approval from the Architect before the estimates are due. That manufacturer's product should be listed as a deduction or addition or same cost as an alternate bid.

By referring to the INTRODUCTION, October 1930, to this series of specifications, a full explanation of the above paragraph may be had.

MATERIALS

STEEL

The quality shall be in accordance with the latest standard specifications for structural steel for buildings, approved and issued by the American Society for Testing Materials.

CAST IRON

Castings shall be of soft grey iron, true to pattern, smooth and straight, with smooth even edges and corners, of a uniform thickness of metal and shall be entirely free from defects impairing strength, durability or appearance.

Castings shall be of thickness and strength sufficient to withstand all strains that may be brought to bear upon them.

FINE IRON CASTINGS

Shall be made in stove plate or other suitable moulding sand. Ornamental portions shall be cast directly from a plaster reproduction of the clay model.

WROUGHT IRON

The quality of the material shall be in accordance with the latest standard specifications for genuine wrought iron approved and issued by the American Society for Testing Materials.

PAINT

All paint used for the shop coat on all miscellaneous iron and steel work under this Contract shall be————. This paint shall be used as it comes in the can. Adulteration of any kind is prohibited.

All paint shall be evenly and smoothly applied, well brushed out and free from sags and runs. All surface defects in the shop coat shall be brushed smooth.

All abrasions of the shop coat shall be touched up in the field after the work is erected with the same material as specified for the shop coat. The work shall be left clean and in perfect condition for finishing by the Painting Contractor.

WROUGHT IRON RAILINGS

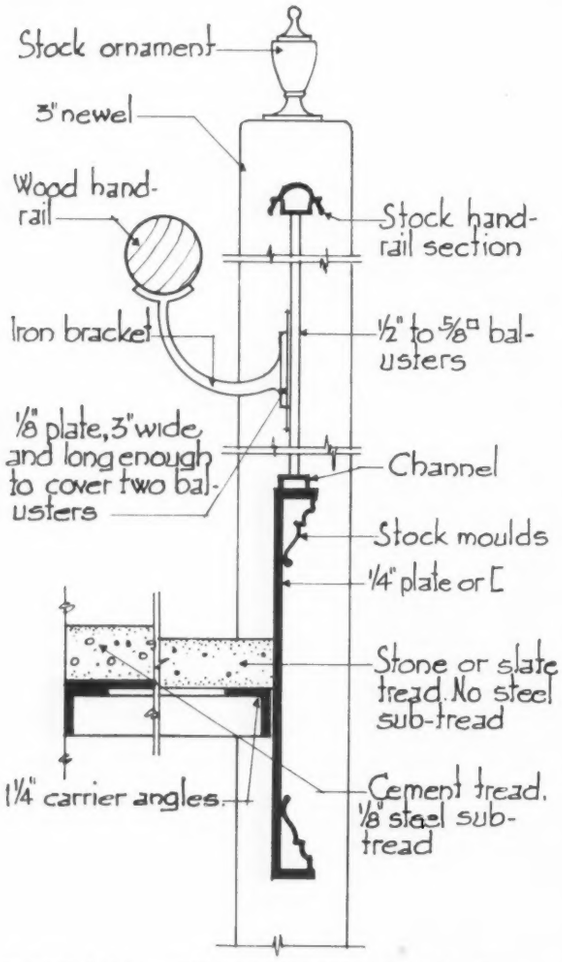
Shall be executed in a skillful and workmanlike manner. Connections shall be strong and neatly made with all dowels, screws, and rivets countersunk and dressed flush, or with round heads, as detailed.

Surfaces of all welds and other portions of the work shall be finished clean, smooth and free from unevenness or other imperfections.

Where hand wrought work is called for, the iron shall be worked to produce, in character and detail, the design indicated on the Contract drawings subject to such modifications as are indicated on the approved shop drawings or illustrated by an approved sample of executed work.

Include in the above paragraph the type of finish desired throughout the work. On the drawing note clearly what portion of the work is to be hand wrought iron work. Determine if the hammering is to be fine or coarse, whether it shall be made with a ball or flat face hammer, etc. This will aid the contractor to determine better the cost of the finished work. Here again it is possible to select frankly the firms that are satisfactory to you and who will be certain to give you the type of completed work that will do justice to your building.

There is also another way to handle the hand wrought iron work and that is to determine the cost of this work and have the contractor include the amount in his bid. This method can only be used in private work and it is well to explain the procedure to the owner. Often a type of work is desired that some concern accomplishes better than another and it would be difficult to place this work in general competition. If this is the case, it is better handled in this manner. Overcharging due to closed competition is not practiced by high type manufacturers. This has been proven to my satisfaction repeatedly.



DETAIL OF NEWEL, HAND-RAIL, STRING, TREADS, ETC. FIGURE I.

STAIRS

Stair work shall, unless otherwise specified, include all necessary strings, hangers, and supports, carriages and facias, newels and balustrades, supports for handrails, risers, metal treads, steel under-treads and platforms. All stair framing, except where otherwise specified herein, shall be of steel. All parts of the stairs shall be of sufficient strength to sustain safely the live load per square foot of treads and platform required by the local Municipal Department having jurisdiction and constructed to conform to structural floor framing of the Building as indicated on the framing diagrams approved by the Architect. All stair framing shall be securely bolted to or hung from the masonry or structural frame with approved struts or hangers. These struts or hangers shall be located, as far as practicable, in partitions or walls, concealed from view, or, if they must be exposed, shall be located and arranged so as not to detract from the appearance.

STRINGS AND FACIAS

Where the strings are to have mouldings as indicated on the Contract drawings, they shall be of rolled steel conforming to the profiles detailed. When mouldings are not detailed on the Contract drawings they shall be assumed to be rolled steel similar to ———— moulding No. ——, or ———— No. ——. See Figure I.

Facias corresponding to the strings shall be returned around all stair platforms including jib shaped facias where specified or shown.

Where cover plates are called for under Contract Drawings, they shall be installed on both top and bottom of strings.

Carrier angles, vertical and horizontal, shall be riveted to the strings for support of risers and treads. Unless otherwise specified or indicated on the drawings, carrier angles shall be made of one and one-quarter (1¼)

inches by one and one-quarter (1¼) inches by three-sixteenths (3/16) of an inch angles.

TREADS AND PLATFORMS

All stairs to have ———— treads. Stairs to be prepared for such treads and platforms and landings of thickness given under ———— Division.

Mention the type of tread such as stone, slate, marble, terrazzo, etc., and under that Division, furnish this material. Note the required thicknesses. We prefer to show all this on the detail drawings and refer to them in the specifications but there are times when the item may be very small and simple in design and would not require a detail. Then, the sizes, etc., must be covered in the specifications.

All treads, platforms and landings, where landings are part of the stair construction, shall be provided with ⅛ inch steel subtreads securely bolted to carriers and strings. On platforms and landings two (2) inch angle or T iron supports shall be provided, spaced maximum 3'0" on centers, bolted to the steel subtread and secured to the strings.

The above paragraph applies to cement, terrazzo, composition, or similar material that is being used for treads, platforms or landings. The use of stone, slate, and some marble for treads does not require steel subtreads, if the material is 1¼" thick; but necessitates closer spacing of supports for platforms and landings, cutting the span from 36" to a maximum of 24".

The thickness of tread required can be arrived at by consulting the manufacturer of the material to be specified.

The omission of the ⅛" subtread is a saving not only in money but in material not essential to this particular condition.

Where finished metal treads are called for, they shall be of wrought or cast iron with nonslip surface.

Stairs indicated to have safety treads shall be provided with treads of a type ———— (Insert trade name of manufacturer).

RISERS

Where slate, stone or other form of treads with projecting nosing is called for the risers shall be of steel (or cast iron) with plain moulded panel.

Where cement, asphalt, terrazzo (cast in place) or composition treads are required, the risers shall be ⅛ of an inch thick steel continuous with the subtread and bent to form nosing.

Risers shall be securely bolted to the carrier angles on the strings.

NEWELS

Shall be as specified (cast iron or steel tubing) and provided with cast iron cap and drop. Unless otherwise specified or indicated on Contract drawings, newels shall be three (3) inches square with caps and drops of stock pattern subject to Architect's approval.

If newels are to be ornamental or if special caps, such as brass urns or balls, are to be used, specify them clearly, under the above heading.

BALUSTRADES

All balustrades shall be of cast or wrought iron of sizes as indicated on Contract Drawings. They shall have top and bottom members of channels, the lower securely fixed to string and the upper arranged to receive handrail. Where sizes are not given on Contract drawings, balustrades shall be ⅝ of an inch square bars, spaced five (5) inches on centers with 1¼ inches by ½ of an inch top channel and 1 inch by ½ of an inch bottom channel.

SOFFITS

Where soffits are indicated as being plastered, strings shall be properly drilled to receive furring.

Where soffits are exposed, all parts must be finished neatly for painting.

SPIRAL STAIRS

Spiral stairs shall have three (3) inch inside diameter, welded steel pipe center posts with cast terminals and cast base, cast combination treads and risers with diamond-roughed surface and welded steel pipe handrails. Where shown on drawings, plate and angle facias shall be provided at openings in floors.

PIPE RAILS AND STANDARDS

Where pipe rail or rails and standards are called for they shall be made of one and one-half (1½) inch nominal inside diameter standard weight welded steel pipe, with all necessary elbows, T's, flanges and fittings. Where pipe rails are called for in connection with bar balustrades or wall brackets, they shall be firmly secured to the newels and channel top rails or to the brackets.

Where pipe rails are to be secured to floors or walls they shall be provided with wall or floor flanges for expansion bolting into floor or wall. Where uprights extend into concrete curbs, they shall be set in place before concrete is poured to a depth of 15" or the uprights may be leaded into pipe sleeves of same depth.

The majority of these railings will show on the drawings and the contractor can determine heights, number of horizontal members, whether single or double, and where they must be curved or ramped to follow the general lines of the work, also where the rails are being placed. Details will aid greatly to clarify conditions—more so than pages of typewritten description.

Rail flanges may be secured with many types of expansion or cinch bolts and a little time spent in investigating results obtained by various bolts will quickly determine just the type bolt to specify. Avoid just specifying in general "expansion bolts." Determine the best bolt and specify it.

SHIP LADDERS

Provide ship ladder and landing in Boiler Room to be constructed with 8" channel strings, steps of ⅜" cast iron or wrought iron, formed to an angle of 1" at front, excoriated top surface and lugged and bolted to strings. Strings to be lugged and bolted to floor and wall face. Furnish 1½" pipe rail at one side of ladder secured to string with uprights and secured to wall at top with bolts.

IRON LADDERS

Provide and install iron ladders for ceiling and roof scuttles where indicated on drawings.

Ladders shall consist of wrought iron with strings two and one-half (2½) inches by three-eighths (⅜) inch, eighteen (18) inches apart, and rungs five-eighths (⅝) inch diameter spaced twelve (12) inches on centers shouldered and riveted to strings.

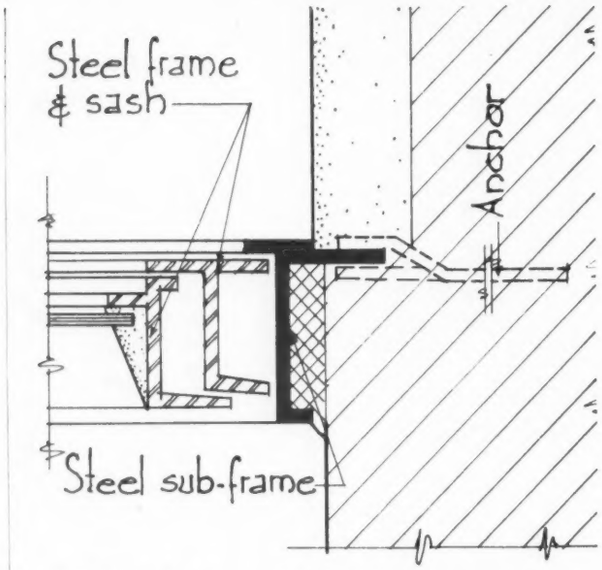
Interior ladders shall be secured to masonry walls or to the structural framing and braced as may be required to secure a rigid support.

If exterior iron ladders are to be specified, include following paragraph.

Exterior ladders shall be secured to the wall every five (5) feet in height by wrought iron brackets. At the top, wall strings shall be extended above the coping at least two (2) feet six (6) inches and bent to form a goose neck.

STEEL WINDOWS

Furnish and install steel windows of the ———— type as manufactured by ————. They shall be



·DETAIL· SHOWING·
·STEEL· SUB-FRAME·
·FIGURE· II

complete with erection fittings, anchor clips, malleable iron hardware. Ventilators shall be equipped with hardware appropriate to the ventilator. Glass shall be secured with copper glazing clips and be bedded and face puttied with steel window putty. Glass to be furnished and installed under another contract.

All windows to be given one shop coat of protective paint.

For number and sizes of windows, see contract drawings.

The above specifications are applicable to steel windows of the commercial type, either projected or pivoted sash and similar type.

If shade brackets are required, do not fail to include them in the specifications or show them on the drawings.

CASEMENT TYPE SASH

Furnish and install steel casements as shown on the drawings as manufactured by ————.

Casement windows, which include fixed, hinged, and pivoted sash as indicated on Contract drawings, shall be constructed of rolled, mild steel (or bronze) sections free from hammer marks and other imperfections, with all corners accurately mitred and all intersections welded or braised solid.

The frames shall be constructed in the same manner and of similar sections and designed for building into masonry, or to be set in cut stone openings or in steel, cast iron, bronze or wood subframes, as shown on drawings.

Where frames are to be built into masonry, they shall be provided with steel angles with outstanding legs forming a wind break, built into masonry jambs, let into cut stone or terra cotta sills, and at the head built into masonry, or extend back of stone, terra cotta, or steel lintel, as indicated on Contract Drawings. Anchors shall be provided at intervals on the jambs extending into the masonry beyond the outstanding angle legs.

Where frames are indicated on Contract Drawings to be set in steel, cast iron, bronze or wood subframes, they shall be secured to the subframes with machine screws, counter sunk flush.

Where mullions are required, they shall consist of rolled steel (or bronze) sections of sizes and at intervals indicated on Contract Drawings.

Sash shall be designed for single lights or divided with muntins as shown on Contract Drawings. They shall be constructed for glazing from the inside and shall be fitted with steel or bronze glazing beads with corners mitred, set with brass machine screws and with hardware.

All members of steel casement type, including frames, mullions, sash, muntins and glazing beads or angles, shall be thoroughly cleaned and given shop priming coat.

Unless otherwise specified, all frames or subframes shall be set and built into the walls as the masonry work progresses. This Contractor shall arrange his deliveries in ample time so as to avoid delays to other trades.

All frames shall be set by this Contractor who shall exercise care to see that they are plumb, level, and true and supported until the masonry is complete.

After completion, all joints between window frames and adjoining work will be caulked and pointed under a separate division.

At completion of the work, all sash shall be carefully examined for proper balance, weather tightness, and ease of operation.

All necessary adjustments shall be made so that each sash meets these requirements.

Casement windows may be had with screens attached and appropriate hardware to operate the screened sash. If this combination is desired, specify accordingly.

The installing of casement windows in masonry openings by the manufacturer has ever presented a problem on the job. There are arguments for and against this condition. The contractor insists that if he is responsible for the completed work he should erect them. He claims that in most cases, the windows are installed long after he has erected the openings and that erection then means damaged plaster and other minor inconveniences. The window manufacturer contends that if he does not erect them he cannot be responsible for their operation or guarantee that they will hang correctly and swing freely. Naturally, the architect wants to be able to have one or the other assume the full responsibility in case of later trouble — but how to do it? See Figure II.

We have solved this problem by adding a trifle to the cost of the work but for this added cost we have been rewarded by tight, clean-cut results.

Where casement windows are to be installed in brick or stone (not cut stone) reveals we have specified that these windows are to have steel subframes furnished by the window manufacturer and set by the masonry contractor. These subframes are sent to the job sufficiently ahead of time so that they can be built in as the work progresses. All interior work can be completed and no delay occurs. At a later date the window is easily erected in the subframes, thus avoiding dirt, breakage and other minor troubles. This solution has solved this troublesome question of erection. The subframes built in as the masonry progresses assure a water-tight job and the ease of installing the window at a later date assures a clean-cut installation by the manufacturers. Both parties agree that this is the most practical way.

Where steel casements are erected in cut stone or wood reveals this problem does not occur and the use of subframes is unnecessary.

Caulking of windows, especially the commercial type, should not be forgotten and should be included under another Division.

(To be continued)

ELDORADO
THE MASTER DRAWING PENCIL

THERE are some parts of the old world so charming, that we simply could not leave them out of the fantastic new world we're building — scenes of which are sketched for you every month by Ernest Watson, with Eldorado, the master drawing pencil.

But of course we need not be too rabid for originality. Our new world is for only one purpose — to provide fanciful models, so lighted, that sketching them becomes a subtle practice in the use of the various degrees of pencil hardness and softness for the achievement of certain tone effects and composition.

A kneaded eraser was used in these sketches, but otherwise, none of the tones were rubbed or stumped.

In the scene are also the facade of the Cathedral and the dome of the Baptistry in Pisa. The latter shows as a shadow, the form which cast the shadow being "off stage." The curved row of columns and arches contributes a decorative element which in the original is repeated over the walls of the group.

Plenty of paper, a scissors, paste, a bright light, a full range of Eldorado, the master drawing pencil (4B, 3B, 2B, B, HB, F, H, 2H, 3H) — are necessary for sketching these Eldorado Abstracts. Try it — the effects you secure with the constant, even degrees of Eldorado will give you many new hints on pencil technique and pencil perfection! Joseph Dixon Crucible Company, Dept. 167-J, Jersey City, N. J.

SERVICE DEPARTMENTS

THE MART. In this department we will print, free of charge, notices from readers (dealers excepted) having for sale, or desiring to purchase books, drawing instruments, and other property pertaining directly to the profession or business in which most of us are engaged. Such notices will be inserted in one issue only, but there is no limit to the number of different notices pertaining to different things which any subscriber may insert.

PERSONAL NOTICES. Announcements concerning the opening of new offices for the practice of architecture, changes in architectural firms, changes of address and items of personal interest will be printed free of charge.

FREE EMPLOYMENT SERVICE. In this department we shall continue to print, free of charge, notices from architects or others requiring designers, draftsmen, specification writers, or superintendents, as well as from those seeking similar positions. Such notices will also be posted on the job bulletin board at our main office, which is accessible to all.

SPECIAL NOTICE TO ARCHITECTS LOCATED OUTSIDE OF THE UNITED STATES: Should you be interested in any building material or equipment manufactured in America, we will gladly procure and send, without charge, any information you may desire concerning it.

Notices submitted for publication in these Service Departments must reach us before the fifth of each month if they are to be inserted in the next issue. Address all communications to 330 West 42nd Street, New York, N. Y.

THE MART

John Jucker, 230 East Ohio Street, Chicago, Ill., would like to obtain two copies each of the following *White Pine Monograph Series:* Vol. 2, No. 3; Vol. 3, No. 1.

Paul Bowman, Box 411, Beverly Hills, Calif., would like to obtain the July, 1920, issue of PENCIL POINTS.

Harry Gulesian, 324 Ashmont Street, Ashmont, Mass., would like to obtain the following copies of PENCIL POINTS: June, 1928; April, May, and June, 1930. He has for sale or exchange the following issues: September, October, November, 1925; and November, 1923. Advertising removed from November, 1925. He also has for sale, or will exchange for other architectural books, the following *Boston Architectural Club* year books: 1908, 1909, 1910 (school and ecclesiastical work), 1914 (Belgium and Germany), 1916 (current architecture), 1915 (Piranesi), and 1917 (current architecture).

Ferdinand Schwartz, 80 Spring Street, Mansfield, Ohio, has the following for sale: 1 complete set of I. C. S. architectural course textbooks, together with a 15-volume I. C. S. reference library; PENCIL POINTS, complete, for the years 1928, 1929, 1930, 1931, and 1932; *Architecture*, 1927, 1928, 1929, 1930, 1931, 1932, complete; *The Architect*, 1928, complete, and January, 1929; *Construction Methods*, March, April, September, October, November, December, 1927, 1928, and 1929, complete, January to September, 1930. All in good condition. Purchaser to pay postage.

W. B. Cobb, 2 Horatio Street, New York, has for sale the June and August, 1920, issues of PENCIL POINTS.

Sam Sims, 428 Esperson Bldg., Houston, Texas, has for sale 150 architectural books and many magazines, including Raguinet's *Materiaux et Documents d'Architecture*. Will sell all or part.

N. B. Obert, 4247 Colerain Avenue, Cincinnati, Ohio, has for sale the following magazines: *Architectural Record*, 1900 (part), 1901, 1902, 1903, 1904, 1905; *Brick Builder*, 1901, 1902, 1903, 1904; *Architecture*, September to December, 1902, inclusive; *American Builders*, October, 1900, to September, 1901, inclusive. All bound in heavy material. Will sell all or part at reasonable offer.

Katherine Crockett, 116 East 59th Street, New York, telephone VOlunteer 5-3680, wishes to purchase a second-hand air brush.

Stephen A. Fritsch, 30-06 120th St., College Point, N. Y., has the following books for sale: *English Architecture at a Glance*, *English Furniture at a Glance*, and *English Rooms and Their Decoration*. Excellent condition, uniformly bound. Make offer.

PERSONALS

JOSEPH R. FALLON and E. E. MILLS, doing business under the firm name of Fallon and Mills, Architects and Engineers, have opened an office at 509 First National Bank Bldg., Richmond, Indiana.

WILLIAM ROY WALLACE, A.I.A., has opened an office for the practice of architecture at 1202 Reynolds Bldg., Winston-Salem, N. C.

WILLIAM GEHRON and SIDNEY F. ROSS, ARCHITECTS, announce that the partnership of Gehron & Ross will continue for the completion of work already contracted for, but all new business since October 28, 1932, contracted for by William Gehron and Sidney F. Ross individually, will be for their respective individual accounts.

The office of WILLIAM GEHRON will continue in his own name and at the same address as before, 101 Park Avenue, New York.

MANUFACTURERS' DATA WANTED

REQUESTS FOR manufacturers' literature have been received from the following:

H. S. SINGLEY, ARCHITECT, Prosperity, S. C. (for an A.I.A. file).

WILLIAM ROY WALLACE, ARCHITECT, 1202 Reynolds Bldg., Winston-Salem, N. C.

HAROLD G. KENNEDY, ARCHITECT, 4582 Bryant St., Denver, Colorado.

JOHN H. PRITCHARD, ARCHITECT, Call, Texas.

STEPHEN J. POTTER, ARCHITECT, Colonial Avenue, Union, Union County, N. J.

EDWARD CRAWFORD, ARCHITECT, 805 N. Harrison Ave., Kirkwood, Mo.

JOHN STONE THORNLEY, draftsman, 9 Hillside Ave., Nyack, N. Y. (for an A.I.A. file).

JEROME ZIRINSKY, draftsman, 26 Court Street, Brooklyn, N. Y.

J. ERNEST WHELAN, draftsman, 101 Gladstone St., East Boston, Mass. (for an A.I.A. file).

JOSEPH I. CHRISTIE, draftsman, 5816 Enright Ave., St. Louis, Mo.

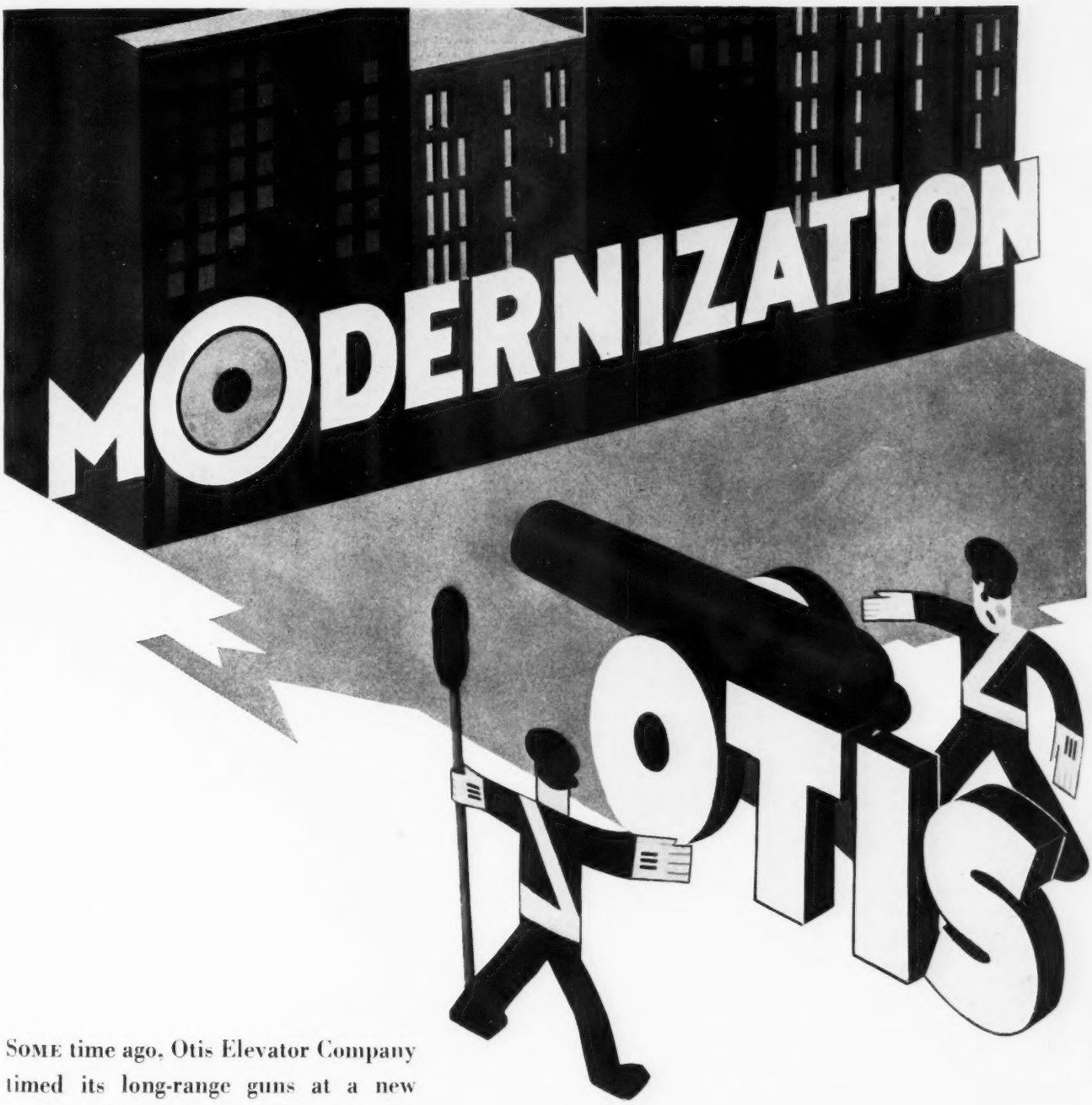
WEBSTER H. MITCHERLING, draftsman, 7800 Oak Avenue, Parkville, Baltimore, Md.

JOSEPH DALIS, draftsman, 2141 Prospect Avenue, Bronx, N. Y. (for an A.I.A. file).

RENDRAG WERDNA YARRUM, architectural student, Box 398, M.I.T., Dormitories, Cambridge, Mass.

(Continued on page 29)

EMPLOYMENT SERVICE ITEMS WILL BE FOUND ON PAGE 24, ADVERTISING SECTION



SOME time ago, Otis Elevator Company timed its long-range guns at a new target—*the modernization of buildings.* The batteries have since been in constant action. For ammunition they have used helpful and informative advertising directed at both tenants and owners. This advertising tells them in no uncertain manner how they can improve the status and earning power of their buildings.

This concentrated action has had its effect, and today the sentiment is more and more favorable toward modernization. Building owners are realizing that only a modern and up-to-date building can hope to pay expenses and earn a profit.

Typical of the acceptance of modernization are some recent contracts for the elevatoring of four and five story walk-up apartments. One building owner writes that he easily filled nineteen vacancies on upper floors as soon as the elevators were installed.

We suggest that you consult with building owners concerning plans of modernization. You will surely find them favorable to your proposals. And when it comes to elevators, Otis will be glad to co-operate with you in providing its special elevator Survey Service, which is free and will be of practical assistance. OTIS ELEVATOR COMPANY —339 offices throughout the world.

Publications on Materials & Equipment

Of Interest to Architects, Draftsmen and Specification Writers

Publications mentioned here will be sent free unless otherwise noted, upon request, to readers of PENCIL POINTS *by the firm issuing them. When writing for these items please mention* PENCIL POINTS.

The New Victor-Vent.—A.I.A. File No. 30-e. Illustrated bulletin describing the construction and operation of a new ventilator for installation in foundation walls of homes and other types of buildings. J. W. Fiske Iron Works, 78 Park Place, New York, N. Y.

Enterlocking Fabricated Building Lumber.—Bulletin containing complete data and detail drawings covering a new system of wood building construction, in which the basic framing members are delivered to the building site ready for the carpenter to put in place in conformity with any desired plan. 4 pp. 8½ x 11. Long-Bell Lumber Sales Corp., Kansas City, Mo.

Stevenson Super-Freezer (Overlap Type) Doors.—A.I.A. File No. 32-c-1. Bulletin No. 106 illustrates and describes in detail the construction of a new type of cold storage door designed for the protection of all openings to spaces where near zero and sub-zero temperatures exist. Specifications, installation directions and details. 12 pp. 8½ x 11. Jamison Cold Storage Door Co., Hagerstown, Md.

Wing Combustion Control System.—A.I.A. File No. 30-c-3. Bulletin No. M-56, just issued, explains the advantages and operation of Wing automatically controlled forced draft systems, for use with heating and hot water boilers in buildings of all types. Capacity and dimension tables. 8 pp. 8½ x 11. L. J. Wing Mfg. Co., 154 W. 14th St., New York, N. Y.

Emerson Reversible Kitchen Ventilating Fans.—A.I.A. File No. 30-d-1. Illustrated folder giving complete descriptive information covering a new and improved line of ventilating fans for the kitchens of old or new homes or apartments. Prices and dimension data. 6 pp. 8½ x 11. The Emerson Electric Mfg. Co., 2018 Washington Ave., St. Louis, Mo.

The New Electric Sedgwick Roto-Waiter.—Folder describing briefly a new low-priced electrically operated dumbwaiter to serve two landing levels especially adaptable for banks, cafeterias, clubs, factories, hotels, libraries, markets, restaurants, etc. 4 pp. Sedgwick Machine Works, 150 W. 15th St., New York, N. Y.

Westinghouse Ultra-Violet Luminaires.—Catalog 219-E. New publication dealing with the subject of ultra-violet luminaires shows the varied applications of healthful ultra-violet radiation in combination with lighting units and as separate fixtures. Units for use in the home, restaurants, offices, stores, shops, etc., are listed and illustrated, accompanied by specifications. 16 pp. 8½ x 11. Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Enduro Stainless Steel.—New brochure 217-B contains a large fund of comprehensive information on architectural applications of Enduro stainless steel, also on its fabrication, properties, shapes, finishes available and installation methods. Details. 14 pp. 8½ x 11. Republic Steel Co., Massillon, Ohio.

Bathrooms and Kitchens of Distinction with Carrara.—Attractive brochure devoted to the subject of Carrara structural glass illustrates in full colors various designs showing the versatility of treatment possible with this type of modern structural glass for the bathrooms or kitchens of new homes or for purposes of remodelling. 12 pp. 8½ x 11. Pittsburgh Plate Glass Co., Grant Bldg., Pittsburgh, Pa.

S & K Weather-Tite Casement Unit.—Folder presenting details and price list covering the S & K line of weather-tite inswinging casement units. 4 pp. 8½ x 11. Segelke & Kohlhous Co., La Crosse, Wis.

Streator Rugg Face Building Tile.—Folder with descriptive data and construction details pertaining to a type of building tile that permits permanent construction without the use of stucco, brick-veneer or other facing materials. 4 pp. 8½ x 11. Streator Drain Tile Co., Streator, Ill.

Comfortable, Economical Heating.—New publication discussing the methods of obtaining comfortable, economical heating. Included are installation details and descriptive data covering the various types of Convectofin built-in heaters. 16 pp. Commodore Heaters Corp., 11 West 42nd St., New York, N. Y.

Goodyear Rubber Flooring in Michigan Masonic Home.—Attractively illustrated brochure showing the various designs selected for the rubber flooring installation in the Michigan Masonic Home at Alma, Mich. 16 pp. 8½ x 11. The Goodyear Tire & Rubber Co., Rubber Flooring Dept., Akron, Ohio.

E-Z Lavatory Hanger.—Descriptive bulletin with installation details covering an adjustable hanger for lavatories and kitchen sinks. Healy-Ruff Co., 765 Hampden Ave., St. Paul, Minn.

Safe Sewage Disposal for Farm and Suburban Homes.—Useful reference document for architects explaining in detail a method of sewage disposal for farm and suburban homes. Complete instructions together with details for the construction of septic tanks, well platforms and curbs of concrete are included. 16 pp. Portland Cement Association, 33 West Grand Ave., Chicago, Ill.

Concrete by Pipe Line.—Illustrated bulletin describing briefly the advantages and operation of a new pump which pumps concrete over any distance up to 500 feet or any height up to 75 feet. 6 pp. 8½ x 11. Chain Belt Co., Milwaukee, Wis.

Ultrafine Artists' Drawing Board.—Set of samples of a new line of 1, 2, 3 and 4-ply drawing boards especially suitable for pen, pencil, charcoal, crayon and brush work. Milton Paper Co., Inc., 119 W. 24th St., New York, N. Y.

The New Allen Electro-Wind Turbine Ventilator.—A.I.A. File No. 12-k-1. Folder giving detailed data pertaining to the construction and applicability of a new type of exhauster, which combines both the powers of wind and electricity. Included is data on the Allen multi-vane turbine ventilator, also tabular matter on both types. The Allen Corporation, 14th Ave. at Howard St., Detroit, Mich.

Qualitybilt Woodwork Building Specialties.—Catalog No. 131 describes and illustrates a wide range of building specialties including garage doors, disappearing stairways, mantels, bookcases, kitchen and bathroom furniture, etc. 40 pp. Roberts Sash & Door Co., 908 W. Cullerton St., Chicago, Ill.

Cromar Oak Flooring.—Illustrated brochure explaining the various operations performed in the production of Cromar factory finished oak flooring. 24 pp. The Cromar Co., Williamsport, Pa.

New Hi-Test Red Top Insulating Board.—Bulletin announcing the introduction of Hi-Test Red Top insulating board, made in four principal types, building board, standard tongue and groove lath, insulating tile board and roof insulating. Series of simple tests are outlined and pictured. 12 pp. 8½ x 11. United States Gypsum Co., 300 West Adams Street, Chicago, Ill.

Refreshor Easy-Clean Shower Heads.—Folder covering a new easily cleaned shower head especially suitable for use in homes, apartment buildings, hotels, clubs and public buildings. Crane Co., 836 So. Michigan Ave., Chicago, Ill.

Published by the same firm, "Addenda Exposed Shower." Bulletin explaining the advantages of construction and operation of the Addenda exposed shower, designed to modernize antiquated plumbing installations.

Prometheus Hospital Food Conveyors.—Data sheet showing several types of food conveyors also serving table for the diet kitchens for hospital use. 8½ x 11. Prometheus Electric Corp., 360 West 13th Street, New York, N. Y.

Glascote Brewery Tanks.—New catalog containing much useful information for architects and engineers who may be working on brewery projects. Descriptions cover horizontal or vertical, open or closed top, seamless or sectional glass lined storage and fermentation tanks. Dimension and conversion tables. 12 pp. 8½ x 11. The Glascote Co., Inc., 20907 St. Clair Ave., Cleveland, Ohio.

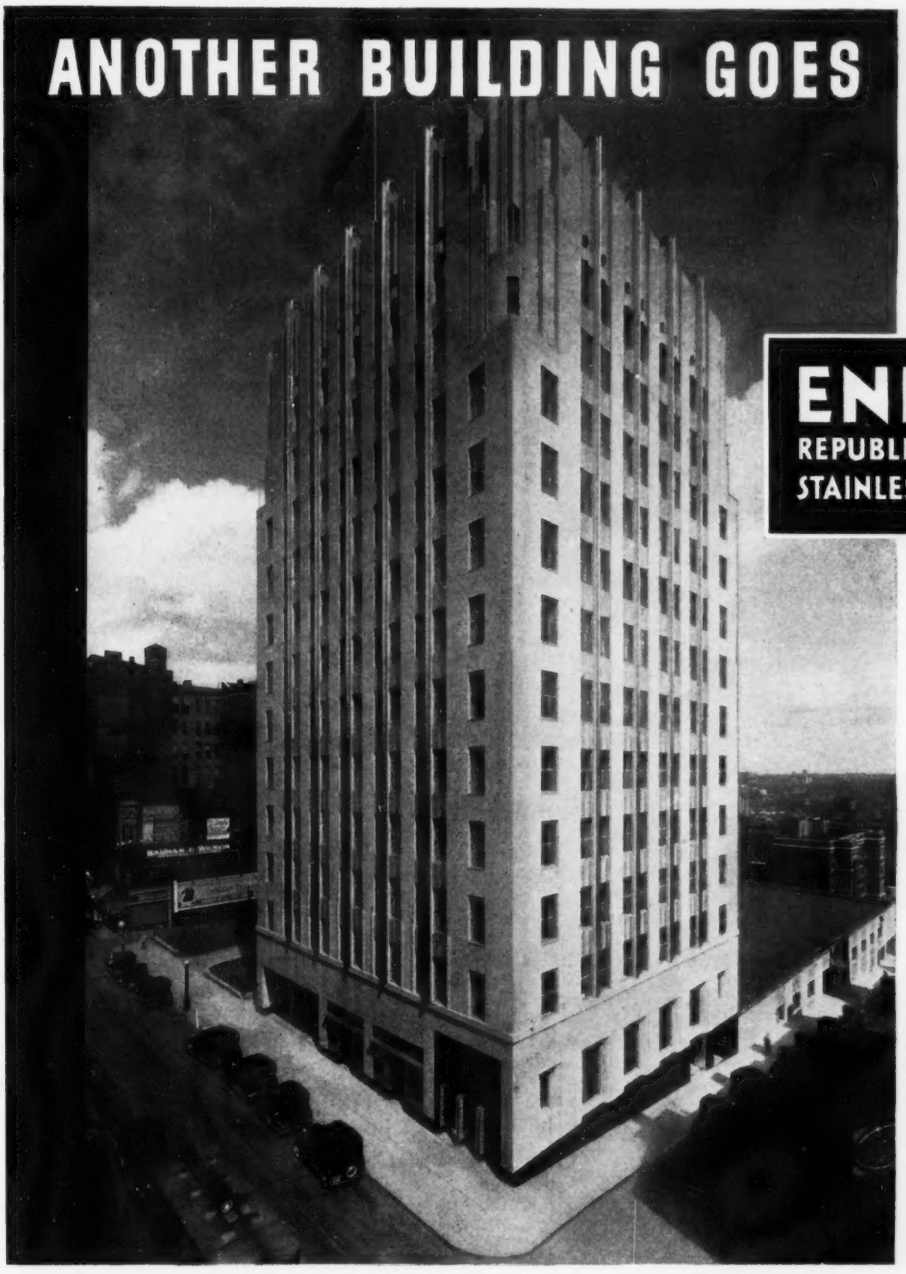
Balsam-Wool and Nu-Wood Insulating Materials.—Valuable reference book for architects and specification writers dealing with the subject of heat insulating, sound deadening and acoustical treatments for buildings. Descriptive and specification data, detail drawings, tabular matter. 16 pp. 8½ x 11. Wood Conversion Co., Cloquet, Minn.

"Invisigard" Escape-Proof Windows.—Illustrated bulletin setting forth the advantages of a line of detention windows, which combine window, guard and operating mechanism in one unit. 4 pp. 8½ x 11. Security Steel Products Co., Arcade Bldg., St. Louis, Mo.

Enjoy Home Comfort.—New publication discussing the convenience of modern automatic oil heat and describing the construction of Torridheet, a rotary wall-wiping flame type of oil burner. 20 pp. Cleveland Steel Products Corp., Madison at W. 74th St., Cleveland, Ohio.

Cellized Wood Block Floors.—A.I.A. File No. 19-e-92. Architect's filing folder containing useful reference data covering a line of wood floor blocks adapted to all types of buildings. Included are specifications, basic floor designs, dimension tables and drawings of old and new methods of wood floor construction on concrete slabs. 8½ x 11. Cellized Oak Flooring, Inc., Memphis, Tenn.

ANOTHER BUILDING GOES ENDURO ●



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Replies to box numbers should be addressed care of PENCIL POINTS, 330 West 42nd Street, New York, N. Y.

Wanted: Architectural draftsman, one who is capable of designing fine small homes of period architecture in the modern adaption. Experience in construction details not necessary. State salary desired. Box No. 300, care of PENCIL POINTS.

Position Wanted: Young man, 21, desires position in architect's or contractor's office. I.C.S. student of complete architecture. Considerable drawing practice in High School, Y.M.C.A. night school as well as I.C.S. work. Has chosen architecture as profession. Experience main object. Luther E. Daugherty, 424 East Pearl Street, Butler, Pa.

Position Wanted: Architectural designer and draftsman, 30 years' general practical experience in New York City on all classes of work with leading architects. Will go anywhere and salary moderate. Box No. 301, care of PENCIL POINTS.

Position Wanted: For $20 a week I would like any position for which my experience qualifies me. Six years' experience as designer, draftsman, engineer, superintendent, on schools, apartments, churches, jails, office and store buildings, public buildings, factories and residences, in Middle West and Pacific Coast. Able to get new business. Experienced appraiser. Age 29, married, Protestant, temperate habits. Graduate in architecture, University of Michigan and Southern California. Registered architect and engineer. Go anywhere here or abroad. Harold V. Maurer, 1926 E. Jefferson Boulevard, South Bend, Indiana.

Position Wanted: Opportunity for architect to retrench —Draftsman with 15 years' experience in all branches of architect's work, starting as expert stenographer, secretary and office manager, and developing into first-class draftsman with experience in some of best offices in New York during past 12 years. Capable of being one-man office and willing to work for nominal salary. Age 32 and educated at Columbia University. Box No. 302, care of PENCIL POINTS.

Wanted: Salesman to call on architects, artists, art schools,with line of transparent water colors. 25% commission. Circolo Color Co., 118 East 28th Street, New York, N. Y.

Position Wanted: Japanese young man, age 21, graduate of Heald's Engineering College desires position in architect's or builder's office. Salary no object. Experience main incentive. Harry Ikemoto, Route 1, Box 190-C, Sacramento, Cal.

Position Wanted: Is there an architect with an office and an established practice, now dormant or partially inactive, who would like to take into his office a college graduate, 26 years of age, who is a registered architect in the state of Ohio paying him a salary sufficient only to meet his expenses at this time, but with the intention of making him a member of the firm now or in the near future and rescaling his salary when business improved? Architects interested please write Box No. 303, care of PENCIL POINTS.

Wanted: Information leading to correspondence with individuals who have acted professionally as Building Investment Counsellors. The work would involve a complete analysis of costs, operating expenses and income factors arising in the promotion of building and real estate projects. R. G. Deanmead, 115 Woodland Avenue, Columbus, Ohio.

Position Wanted: Architectural designer, located in Massachusetts, 20 years' experience in first class ecclesiastical work, colleges, banks and domestic work. Seven years in own practice. Would be glad to render temporary assistance. Box No. 304, care of PENCIL POINTS.

Position Wanted: Architect registered in New Jersey, American, single, middle-aged caretaker for hotel or residence. Will make minor repairs, also painting and decorating, operate low pressure heating plant, drafting and supervise alteration work. Moderate salary with room and board. Complete information on request. Box No. 305, care of PENCIL POINTS.

Position Wanted: Architectural man, married, 34 years of age, 15 years' experience, desires position as draftsman, architect's or building construction engineer's office. Have held position 6 years as supervisor of architectural drafting for building alteration. Box No. 306, care of PENCIL POINTS.

Position Wanted: By experienced senior architectural draftsman. Bartlett White, Lenoir City, Tennessee.

Position Wanted: Architectural designer, graduate of C.I.T., twenty years' diversified office experience on monumental, commercial and domestic projects. Creative ability for modern architecture based on training in the traditional. Presentation in perspective and competitive work. Efficient on construction drawings and details. Will accept temporary position to qualify. Salary and location secondary. Box No. 307, care of PENCIL POINTS.

Position Wanted: Junior draftsman, 3 years with structural engineer, 5 years architectural school, Columbia University, evening session. Prefers position in architect's office but will do any type of similar work. Box No. 308, care of PENCIL POINTS.

Position Wanted: Young man wishes position in architect's office. Have completed course in Brooklyn Technical High School. Salary secondary. Would like permanent position in any locality. George Terwilliher, 8028-90th Avenue, Queens, L. I., N. Y.

Position Wanted: Architect located in Washington, D. C., experienced in government work, and well acquainted in government departments, would like to represent manufacturer of approved building materials. Excellent references. Box No. 309, care of PENCIL POINTS.

Position Wanted: I am 37 years old and married. I have had 10 years of surveying, architectural and engineering drafting, and supervision of construction. My experience has been on a water supply project, a railroad, water power projects, subdivision and general land surveying, golf course layout, reinforced concrete construction and general building construction. I will locate permanently anywhere in the United States and take temporary assignments anywhere in the world. Box No. 310, care of PENCIL POINTS.

Position Wanted: Architectural graduate, 11 years' practical experience. Age 30. Having no parents will travel anywhere. Ready now. Salary—will appreciate any proposition or what you can afford. Very ambitious, steady worker and very reliable. William Kellner, c/o M. Kessler, 244 E. 7th St., New York.

Situation Wanted: Ornamental art worker and figure model maker, artistic chasing and moulds requiring exceptional artistic and accurate execution as regards draftsmanship and workmanship. Schooled in America and Europe. Many years' experience. Box No. 311, care of PENCIL POINTS.

Position Wanted: Draftsman with knowledge of estimating desires position in a builder's office. Sample drawings mailed on request. Studied architectural construction for two years at Pratt Institute, Brooklyn, also understand stenography. Age 31. Location immaterial. John R. Martin, 823 Norman Street, Bridgeport, Conn.

Position Wanted: Man thoroughly experienced in all phases of architecture, having had charge of one of the largest drafting rooms in New York City, also having acted as superintendent on very big projects on the job. Able designer and thorough knowledge of period design. Would like position with architectural or building firm at a very modest salary. Box No. 312, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, 30 years' experience obtained in the best architectural offices in New York City. Had complete charge of plans on Homestead Hotel Building, Chateau Laurier and Canadian National Railway Building. Training obtained in Columbia University Extension, Hornbostel Atelier, Cooper Institute and Mechanics and Tradesmen Institute. Age 45, married. Charles F. Kennell, 3536 Hull Avenue, Bronx, N. Y. Apartment 4-H.

Position Wanted: Registered architect and graduate of School of Architecture of N. Y. U. would like position with an architect, engineer or manufacturer. John J. Trich, 329 Ridge Road, Rutherford, N. J.

Position Wanted: Gothic man with good experience and training on churches, schools and commercial buildings would like to contact office with work to do of this nature, or an individual with good sales personality who would consider partnership to work up a practice in this field. Have had 23 years' experience in best offices in the east. Trained here and abroad. Registered in Pennsylvania. Fred D. Dagit, 3759 N. Bouvier Street, Philadelphia, Pa.

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House Beautiful Prize House

This house in Knoxville, Tennessee, won Honorable Mention in the House Beautiful 1931 Small-Home Competition. The shingles and trim are finished with Cabot's Old Virginia White and the blinds with Cabot's Gloss Collopakes in non-fading blue-green.

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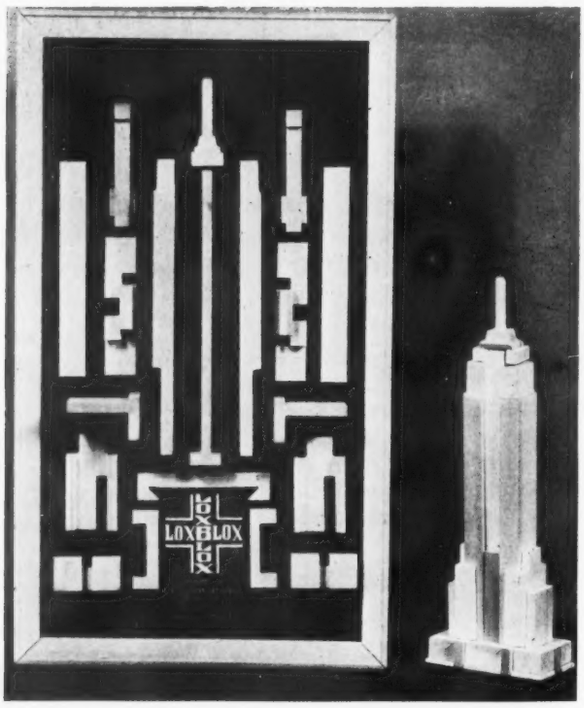


EMPIRE STATE BUILDING IN PUZZLE FORM

The illustration above represents the work of E. P. Crocheron of Chappaqua, New York, an unemployed draftsman who has used his spare time to good advantage in making this puzzle which, when completed, suggests the mass of the Empire State Building. It is now on sale for one dollar in the observation tower of the building. Possibly some men who are now unemployed could use a similar scheme to good advantage.

ARCHITECTURAL TOUR IN EUROPE

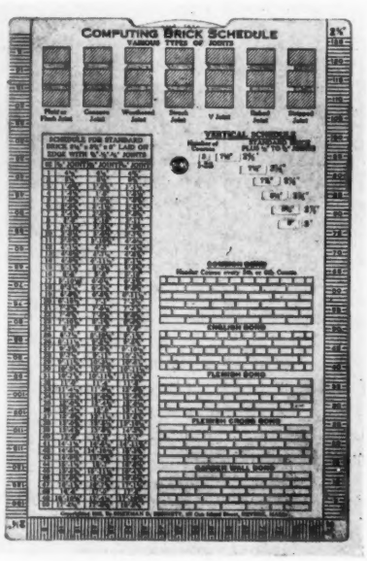
Harry Cunningham of the Department of Architecture, University of Nebraska, Lincoln, Nebraska, has been engaged by the American People's College in Europe to conduct an architectural tour abroad. The party will sail from New York on June 17th for England, and will visit France, Austria, and Belgium. The cost of the entire trip will be $400.

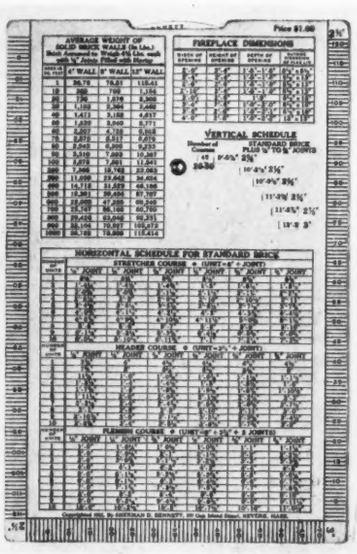
COMPUTING BRICK SCHEDULE

The computing schedule, shown at the right, was devised by Sherman D. Bennett, 107 Oak Island Street, Revere, Massachusetts. A rotating disc shows, through a series of slots, the number of courses required and the corresponding total vertical heights, corrected for the thickness of joint to be used in each case.

In addition, the device has a set of six scales, one for each course height; it has illustrations of the various types of brick joints and wall bonds, tables for computing the horizontal dimensions of brick walls, a table of weights of solid brick walls of varying thicknesses, and a table of fireplace dimensions.

Mr. Bennett, who is an unemployed architectural draftsman, has copyrighted this schedule, which sells for one dollar.





A REPLY TO MR. COYLE AND HIS ANSWER

(Continued from page 11, Advertising Section)

Tendencies, published by the National Bureau of Economic Research, and to the Hoover Committee's report on *Recent Social Trends*. Both show clearly the postwar increase of technological unemployment, largely counteracted, until 1929, by the growth of the service market which absorbed the displaced men. This fact illustrates one of the principles on which my argument is based.

Spending or saving doesn't, of course, create wealth, strictly speaking. Wealth is created by work—human or mechanical—applied to making and distributing useful things and to performing services. In a scarcity economy, where equipment is inadequate, saving serves to direct energy into the production of more equipment, and so to increase the rate of production of wealth. In a plenty economy, where equipment is ample, spending serves to increase the operating rate of the equipment and so to permit a high rate of production of wealth. The characteristic difference between scarcity and plenty is that they are opposites. The moral virtues appropriate to a condition of scarcity are frugality, thrift, and hard work. Those appropriate to a condition of plenty are generosity, open-handedness, and appreciation of cultural values and of the arts of life. The United States has shifted suddenly from a scarcity to a plenty economy, and so we find ourselves equipped with a set of economic moral prejudices at war with the facts we have to handle. The report on Social Trends lays special stress on the dangerous condition that results from the sharp turn that our civilization is now required to take and the slowness of our mental readjustment to it. Mr. Raskob, Mr. Hoover, and Mr. Hearst are all good examples of muddled thinking due to failure to orient themselves to the new situation. The last half of Mr. Beach's letter is an instance of the same thing. Part of it derives from the moral code of Benjamin Franklin, taught to all of us in our childhood; the rest derives from observation of the everyday facts of the surplus economy that now surrounds us. Naturally the result is inextricably confused. If Mr. Beach would focus his mind sharply on the fact that business is now more in need of customers than of new equipment, and chew thoroughly on that and swallow all that comes out of it, the mental and emotional tangle exemplified in his letter would unravel itself.

MANUFACTURERS' DATA WANTED

(Continued from page 20)

EARL L. MATHES, architectural student, 37 Fontainebleau Drive, New Orleans, La.

JOHN J. CARBONE, architectural student, 2681 Marion Ave., New York City.

EVERETT RADER, architectural student, 2117—76th Street, Brooklyn, N. Y.

WILLIS A. WHITEHEAD, architectural graduate, 14½ W. Tulane Rd., Columbus, Ohio (for an A.I.A. file).

PAUL REISS, architectural student, 1414 N. Myrtlewood St., Philadelphia, Pa.

LOUIS T. ALEXANDER, architectural student, 132 Mercer St., Princeton, N. J.

F. W. AYKENS, architectural student, Box 580, Route 10, Portland, Oregon.

JAMES M. CAMPBELL, architectural student, 10466 108th St., Ozone Park, L. I., N. Y.

WALTER W. SAVAGE, architectural student, 38 Diamond St., Brooklyn, N. Y., on architectural subjects such as roofing, construction small home, design, lumber.

VICTOR FRIDLUND, general contracting, 4943 Dupont Avenue, South, Minneapolis, Minn.

E. G. APPLEGATE (planning to open an architectural service office), 202 S. 8th Street, Grand Haven, Mich.

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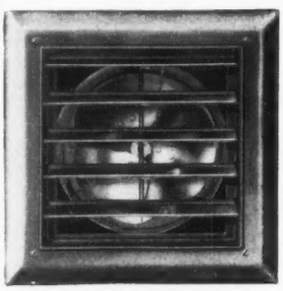
GENERAL ELECTRIC ANNOUNCES NEW VENTILATING FAN

The General Electric Company, Merchandise Department, Bridgeport, Conn., has added to its electric fan line a new wall cabinet ventilating fan designed especially for permanent kitchen installation in homes or apartments being built or remodeled. A special feature of this unit is the newly designed, deep-pitched fan blade which moves large volumes of air with exceptional quietness. Air delivery—500 cu. ft. a minute—is sufficient to renew the air in average-sized kitchens in from 3 to 5 minutes. The fan is controlled by means of a convenient pendant chain within the kitchen. Outside shutters close automatically when fan is turned off to prevent entrance of snow, rain, dust, etc.

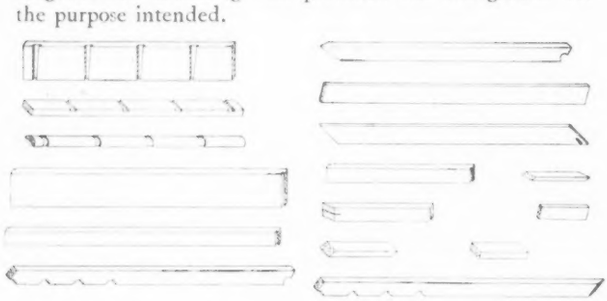


ENTERLOCKING FABRICATED BUILDING LUMBER

In announcing the introduction of Enterlocking Fabricated Building Lumber, a new system of wood building construction is presented by the Long-Bell Lumber Sales Corp., Kansas City, Mo., which is designed to reduce costs besides offering flexibility and sturdy construction.

Through simplification and standardization a coordinated system of machined pieces has been developed so that more than three-fourths of the lumber entering into all usual construction is ready for the carpenter to put into place in conformity with any desired plan. Enterlocking Fabricated Building Lumber is adapted to use in any type of building and with it no two homes need be alike in design, size or room arrangement.

There are only ten basic framing members; only nine lengths of square-end board stock; only six lengths of diagonal-end sheathing—all precision cut and graded for the purpose intended.



Joist headers, joists, sills, studs and plates go together with a strong enterlocking joint made possible by a machine-made, wedge-shaped dovetail. The spacing of the mortised members of the enterlocking joints on the headers, sills and plates is on 16-inch centers, thus automatically assuring correct centering and positive alignment of all joists and studs. With only nine lengths of floor and ceiling joists practically any desired width of building may be obtained.

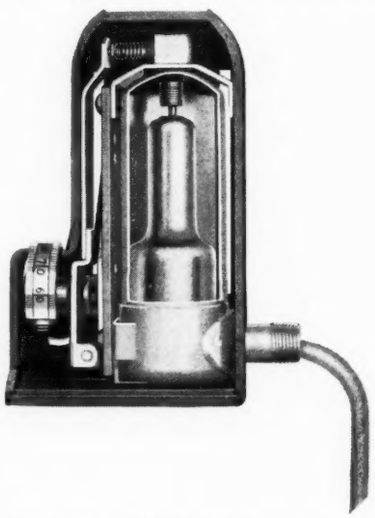
Through the use of half-round wall and ridge plates and rafters with curved notches an almost limitless number of pitches and spans are obtained with the nine rafter lengths.

Square-end board stock, in all standard patterns of flooring, siding, ceiling, shiplap and sheathing, comes in nine standard lengths in multiples of 16 in. instead of the present wasteful practice of multiples of 24 in.; ends squarely trimmed, producing close-fitting joints and providing for correct centering on all enterlocking joists, studs and rafters.

Diagonal-end sheathing cut at 45° angle comes in six lengths, ends truly trimmed producing close-fitting joints and providing for correct centering on all enterlocking joists, studs and rafters. Enterlocking Fabricated Building Lumber is limited to 2-in. framing and 1-in. board stock.

NEW ROOM TEMPERATURE CONTROL AIR VALVE

The Dole Valve Company, Chicago, Ill., announces a new product for use in connection with one-pipe steam heating systems, which will be marketed as the Dole R.T.C. air valve. It is, first of all, an air valve, but it is also a scientific room temperature control valve. The dial indicator can be set anywhere between 60° and 80° Fahr.



When the dial is set at 72°, no more steam is permitted to enter the radiator as soon as the room temperature reaches that point. Unnecessary extra steam is blocked off by a barrier of air inside the radiator. As time passes the temperature in the room begins to drop, part of the barrier of protective air is thermostatically released from the radiator in order to permit the entry of more steam, until the temperature again becomes the desired 72°. This constant adjustment is automatic and it maintains the temperature as set on the dial.

The new valve is simply installed and is easily substituted for the ordinary air or vacuum valve. No expensive change in the one-pipe steam heating system is necessary. All working parts are of durable metal, while the outer casing is made of black Textolite.

JOHN R. CASSELL ESTABLISHES NEW COMPANY

After operating during the past six months as a department within the organization of the National Consumers Paper Corporation, New York, John R. Cassell announces the establishment of the John R. Cassell Co., with offices at 110 W. 42nd St., New York, which will handle a complete line of drawing, tracing and detail papers and drafting supplies.

NEW CRANE SIWELCLO CLOSET

The new Crane Siwelclo closet, recently placed on the market by the Crane Co., Chicago, Ill., embodies new features which are said to be a distinct advancement in the application of the elements of hygiene and health to the design of closets.

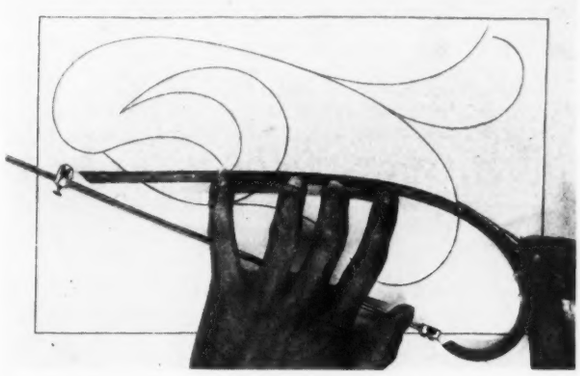
To the advantage of a low height bowl has been added a dip in the center which further diminishes height and makes possible a more natural position. The reduction of exposed surface gained by the dip plus the thorough rim-wash with which the bowl is equipped, minimize the possibility of soiling. Another innovation in the design of this closet is the raised ledge at the back upon which the tank rests and which prevents anything from passing between the tank and the ledge.

DOLLE-KASPAREIT CORPORATION TO CONTINUE SALE OF ARTSTONE PRODUCTS

The Dolle-Kaspareit Corporation, 52 Vanderbilt Ave., New York, announces that, effective February 1st, it will continue the manufacture, sale and distribution of the full line of Artstone finish coat materials in color for both exteriors and interiors. The same personnel, address, and distributing points will be continued. A full line of Artstone products will be warehoused at Bush Terminal, Brooklyn, affording additional distribution service to their customers.

AN AUTOMATIC IRREGULAR CURVE RULER

A new irregular curve, known as the Wade Automatic Curve, has been placed on the market; and is manufactured by the Wade Instrument Co., 2274 Brooklyn Station, Cleveland, Ohio. It consists of a flexible steel drawing edge that is automatically formed into perfect irregular curves by merely moving a convenient slide. A thumb screw clamps the slide when the desired curve is formed. As every slightest adjustment of the slide forms a different and perfect irregular curve, the number of curves that can be formed is infinite.



The steel presents a drawing edge that does not grip the pen or pencil. The drawing edge is backed with a strip of nearly pure rubber, which provides room to rest the fingers and prevents movement when drawing or inking.

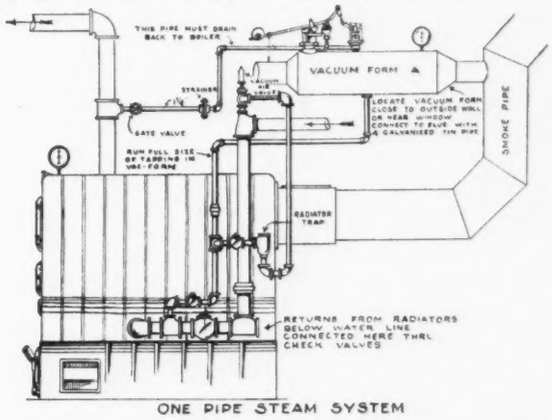
This new instrument is reversible, it can be reversed to form opposite curves or turned end-for-end to form compound, "S," or "O-Gee" curves. It is made in four practical sizes.

No humps, flats or circular arcs are possible and no guesswork or skill is required in the use of this new instrument. It is durable, simple in construction and attractively finished. Nothing to get out of order or wear out. The Wade Automatic Curve, it is stated, serves a definite purpose that is not duplicated by any other instrument.

NEW D. & T. VACUUM FORM FOR STEAM HEATING SYSTEMS

A cardinal rule in the design of low pressure steam heating plants has been to relieve the system of air as rapidly as possible and to return the condensation back to the boiler with a minimum of friction and interference. To accomplish this the D. & T. Manufacturing Company, St. Louis, Mo., makers of D. & T. Systems for hot water systems announces to the trade the Vacuum Form which will be distributed through the United States Radiator Corporation.

The Vacuum Form functions as a vacuum and condensation pump but instead of the use of such moving parts as motors and centrifugal or reciprocating pumps, puts into use the natural laws of nature based on the condensation of steam forming a vacuum when condensed within a closed chamber. The cut illustrates how the Vacuum Form functions. The first steam generated in the boiler passes into the condensing chamber through the steam valve, and forces the air contained in the condensing chamber out through an automatic air-vent.



ONE PIPE STEAM SYSTEM

As the condensing chamber fills with live steam, the temperature is increased. This expands the liquid in the regulating bulb and brings the regulator into action, closing the steam valve, and, with the same action, opening a damper which is located in the cold air pipe thus admitting a free flow of air. The travel of this air is quite rapid, as the whole apparatus is connected to the boiler flue which is under a natural draft. This cold air, passing through the flues and around the outer shell of the condenser, immediately condenses the steam and produces a vacuum of from two to ten inches in the condensing chamber.

This vacuum draws the air and condensate water from the heating system into the condensing chamber. The colder air operating on the regulating bulb causes the regulator to reverse its action, again opening the steam valve and closing the cold air damper. The air is exhausted to the atmosphere and the water to the boiler. This action is repeated automatically during the operation of the boiler.

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The Barber-Colman Company, Rockford, Ill., announces the appointment of a distributor in the Salt Lake territory for their electrically operated temperature control equipment. Rushby C. Midgley, Dooly Building, Salt Lake City, Utah, will handle this line in Utah southern Idaho, and western Wyoming.

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